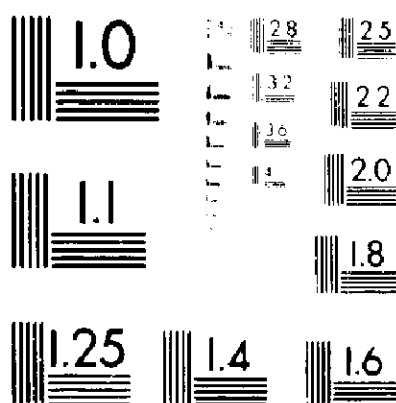


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FINAL REPORT

ASCENT TRAJECTORY DISPERSION ANALYSIS

CONTRACT NO. NAS8-34431

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DECEMBER 1982

PREPARED FOR:

GEORGE C. MARSHALL SPACE FLIGHT CENTER
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
MARSHALL SPACE FLIGHT CENTER, ALABAMA



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LIST OF ABBREVIATIONS

AHI	aerodynamic heating indicator
AOA	abort-once-around
ET	external tank
ETR	Eastern Test Range
FPL	full power level
GN&C	guidance, navigation, and control
IMU	inertial measurement unit
MECO	main engine cutoff
MPL	minimum power level
MPS	main propulsion system
MR	mixture ratio
MSFC	Marshall Space Flight Center
NASA	National Aeronautics and Space Administration
OMS	orbit maneuver system
RCS	Reaction Control System
RPL	rated power level
RSS	root-sum square
RTSL	return-to-launch-site
6-DOF	six-degree-of-freedom
SOFI	spray-on foam insulation
SRB	solid rocket booster
SRM	solid rocket motor
SSME	Space Shuttle main engine
WTR	Western Test Range

Units of Measure

deg	degrees
°F	degrees Fahrenheit
fps	feet per second
ft	feet
ft/s	feet per second
g's	acceleration per sea level gravity
in	inches
in ²	inches squared
kft	kilo feet
lbs	pounds
lbs/ft	pounds per foot
lbs/s	pounds per second
min	minutes
ms	milliseconds
nm	nautical miles
%/s	percent per second
psf	pounds per square foot
psi	pounds per square inch
s	seconds

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1. INTRODUCTION

This final report documents the results of a Space Transportation System ascent trajectory dispersion analysis performed by Dynetics, Inc. under contract to the Marshall Space Flight Center (MSFC) of the National Aeronautics and Space Administration (NASA). The purpose of this dispersion analysis is to provide critical trajectory parameter values useful for the definition of "lightweight" external tank insulation requirements. The "lightweight" external tank is a developmental subsystem of the Space Shuttle.

This analysis has been conducted using two of the critical missions specified for the Space Transportation System. The first mission, referred to as Mission 1, is a 28.5° inclination trajectory launched from the Eastern Test Range (ETR). For purposes of selecting a critical heating mission, a winter launch has been assumed. The second mission, Mission 3A, is a Western Test Range (WTR) trajectory launched into a 104° orbital inclination. A winter launch has also been selected for severity of the heating environment and for comparison with the Mission 1 trajectory. Using these two missions, separate analyses have been performed which have consisted of the following steps:

1. Nominal trajectories have been simulated under the conditions as specified by baseline reference mission guidelines.
2. Dispersion trajectories were simulated using predetermined parametric variations which spanned the $+3\sigma$ dispersion limits. Dispersion parameters were selected to represent error sources stemming from propulsion uncertainties, aerodynamic/environmental errors, mass property inaccuracies, and guidance, navigation and control (GN&C) errors.
3. Since the dispersion parameters are assumed to be independent variations, the requirements for a $+3\sigma$ aerodynamic heating trajectory have been determined by the root-sum square (RSS) of the positive deviations of the aerodynamic heating indicator time histories between the dispersion trajectories and the nominal trajectory. A $+3\sigma$ trajectory has been used to represent the worst heating case.

4. Using the aerodynamic heating indicator parameters as a guide, composite trajectories were simulated using combinations of dispersion parameters which represented primary contributors.
5. Eight directional wind histories were then applied separately to the composite trajectories resulting in unique trajectories for each wind case.

Trajectory parameters associated with the eight wind cases, the composite trajectories, and the RSS analysis were delivered as computer files to the Government. Files associated with Missions 1 and 3A are resident on the MSFC Univac computer system.

The following report provides a summary of the analysis and is subdivided in the same manner as the analysis steps. Section 2 describes the nominal trajectory requirements for Missions 1 and 3A. These requirements are primarily based on inputs provided by Rockwell International and MSFC. Section 3 summarizes the parameters used in the dispersion analysis and discusses the RSS analysis. Section 4 discusses the formulation of the composite trajectories and wind related trajectories. Several appendices are provided which present tabulated results from the various analyses, a description of the RSS analysis computer model, and a discussion of interpretations applicable to the computer output files mentioned above.

2. MISSION 1 AND MISSION 3A NOMINAL TRAJECTORY REQUIREMENTS

Presented in Appendices A and B are the input requirements for the baseline nominal trajectory simulation of Mission 1 and Mission 3A, respectively. This input was used in the MSFC resident six-degree-of-freedom (6-DOF) STAR 6D computer simulation. In order to simulate the maximum heating trajectory, the abort-once-around (AOA) mode of operation was chosen. This mode requires that an engine out be simulated at the AOA/return-to-launch-site (RTLS) mode boundary and retargeted to the AOA terminal main engine cutoff (MECO) condition. Because of the need to establish maximum heating requirements, the trajectory to nominal MECO conditions was not simulated.

Verification of the baseline trajectories was performed by detailed comparison of trajectory parameters to similar trajectories developed by Rockwell International.

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3. DISPERSION PARAMETERS

Tables 3-1 through 3-4 provide a summary of the parameters that were used in the dispersion analysis. The primary assumption of the dispersion analysis represented these dispersions as independent variations and dispersion simulations were determined by the individual biasing of these parameters. Approximately 60 individual trajectories were simulated for each mission and data from these simulations were stored on computer files.

Appendices F and G provide summary information regarding the aerodynamic heating indicator (AHI), angle of attack (α), and sideslip angle (β) for all dispersion cases. The data in these appendices are presented as increments between the value obtained and the nominal value (shown as the second column of these tables). The notation at the right upper corner of each table gives the name of the parameter and the sign of the dispersion value increment used in generation of the trajectory. For example, a "BETA NEG" would indicate the parameter is sideslip angle and the negative sign (-3σ) was used in generation of the dispersions. The table identification numbers shown in Tables 3-1 through 3-4 correspond to the table headings of the tables in Appendices F and G.

Table 3-1. Propulsion Perturbations

Parameter	+3 σ Value	Table Identification No.*	Comments/Assumptions
SRM Webb Action Time (WAT)	3.99%	1	Constant specific impulse
SRM Terminal Thrust Mismatch	-	2	See Appendix C
SRM Specific Impulse	0.5%	3	Constant flowrate
SRM Steady-State Thrust Mismatch	84,000 lbf	4	Constant flowrate
SRM Specific Impulse Mismatch	1.0%	5	Constant flowrate, one SRM low by $\Delta I_{sp}/2$, other SRM high by $\Delta I_{sp}/2$
SRM Thrust Vector Control	0.5254° left, right (tilt, rock) per motor	6 (pitch) 7 (yaw)	See Appendix C
SSME Vacuum Thrust	+6000 lbf $\sqrt{\text{no. of engines}}$	8	Constant specific impulse
SSME Vacuum Specific Impulse	2.3 s $\times \sqrt{\frac{\text{no. of engines}}{\text{no. of engines}}}$	9	Constant thrust
SSME Thrust Vector Misalignment	1.066° (pitch) 0.618° (yaw)	10 (pitch) 11 (yaw)	See Appendix C

*See Appendices F and G

Table 3-2. Aero/Environment Perturbations

Parameter	+3 σ Value	Table Identification No. *	Comments/Assumptions
Aero Coefficients Forces and Moments (all axes)	Tolerances	1 Axial force 2 Normal force 3 Pitch moment 4 Side force 5 Yaw moment 6 Roll moment 7 Base force 8 (+) Hot (-) Cold	Included in MSFC resident aerodynamic data base
Atmosphere	Hot, cold		Values are typical extremes, not necessarily 3 σ

*See Appendices F and G

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Table 3-3. Mass Property Perturbations

Parameter	+3 σ Value	Table Identification No. *	Comments/ Assumptions
External Tank (ET) Propellant Weight	L0X = 0.54% LH ₂ = 0.69% (7514 lbs)	1	Based on total ET loaded propellant with L0X = 6 LH ₂ (fuel bias corrected). Percentage errors are root-sum-squared (RSS) to obtain total perturbation.
SRM Propellant Weight	0.21% (4650 lbs)	2	Based on total propellant loaded (two motors) of 2,214,254 lbs
SRM Inert Weight	--	3	Not used (does not appreciably affect aero heating)
2nd Stage Inert Weight	--	4	Not used (does not appreciably affect aero heating)
Integrated Vehicle Center of Gravity Location	Variable, function of stage weight	5 (1st stage longitudinal) 6 (1st stage lateral) 7 (1st stage normal) 8 (2nd stage longitudinal) 9 (2nd stage normal)	See Appendix C

*See Appendices F and G

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Table 3-4. GN&C Perturbations

Parameter	+3 σ Value	Table Identification No. *	Comments/ Assumptions
Accelerometer Errors (normal, lateral)	Accuracy: Z = 0.034 g's (normal) Y = 0.018 g's (lateral) Alignment: Z = 0.288° (normal) Y = 0.442° (lateral)	1 (normal) 2 (lateral)	Applies to the "load relief" portion of 1st stage flight (see Appendix C)
Rate Gyro Assembly (RGA) Error	Drift: Z = Y = 0.157°/s Alignment: Z = Y = 0.744°	3 (normal) 4 (lateral)	See Appendix C
IMU Platform Error	X = Y = Z = 0.5°	5 (pitch) 6 (yaw) 7 (roll)	Applied as a bias to the reference (θ, ψ versus V_{REL}) table; roll error is neglected
MECO Targeting Errors	Trajectory type dependent	8	See Appendix C

*See Appendices F and G

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4. COMPOSITE AND WIND RELATED TRAJECTORIES

The establishment of a $+3\sigma$ composite aerodynamic heating trajectory was based on the combination of the nominal trajectory and the RSS assessment of the dispersion trajectories. The goal of the composite trajectory was to emulate an AHI time history which consisted of the summation of the nominal AHI history and the positive RSS AHI history. This combination reflected the worst case system dependent heating trajectory. The composite trajectory was simulated by combining mixtures of the dispersion parameters in such a manner to match the summed AHI history. This mixture of parameters reflected the dependent nature of the individual parameters. Table 4-1 identifies the combinations of parameters that were used to define the composite trajectories for the Mission 1 and Mission 3A cases. In this analysis, the matching scheme minimized the deviation of the AHI parameters along the entire trajectory (prime interest, however, was devoted to matching the trajectory through the AOA/RTLS mode boundary). Appendices H and I present, under the appropriate column, the deviation of AHI, angle of attack, and sideslip angle for the composite trajectories for Missions 1 and 3A, respectively. Also shown in these appendices are eight additional cases which correspond to trajectories comprised of the composite parameters plus eight different directional wind profiles (45° increments). These wind histories assume a 95% design wind profile based upon data supplied by Space Sciences Laboratory of MSFC. The combinations of the composites and the varying wind profiles provide a worst-on-worst case aerodynamic heating trajectory. Parameters shown in these eight cases again reflect the deviation between the wind trajectory parameters and the nominal values.

Trajectory parameters of the composite as well as the eight wind trajectories are also stored on the computer file in the same manner as the dispersion trajectories.

Table 4-1. Composite Parameters

Mission 1	Mission 3A
+3 σ Pitch Accelerator	+3 σ Pitch Accelerator
+3 σ Pitch Rate Gyro	+3 σ Pitch Rate Gyro
-1.5% SRB WAT	-2% SRB WAT
Hot Atmosphere	

APPENDIX A—MISSION 1 CRITERIA INPUT REQUIREMENTS

Mission

- a. 65,000-lb payload
- b. 28.5° orbit inclination

Trajectory

- a. General
 - 1. Psuedo-MECO altitude shaping
 - 2. Last RTLS time equals earliest AOA time
- b. Launch
 - 1. Launch Pad
 - Latitude = 28.6084° North
 - Longitude = 279.39° East
 - Altitude = 95 ft
 - Altitude corresponds to booster station 1942 (11.36 in. below the base of the booster skirt).
 - 2. Orbiter tail-south orientation.
 - 3. Staggered start on main engines. 120-ms delay between starts; each Space Shuttle Main Engine (SSME) reaches 90% thrust at 3.7 s after its start signal.
 - 4. Solid rocket booster (SRB) ignition command defines t_0 and is issued 2.716 s after last SSME reaches 90% thrust. Solid rocket motor (SRM) thrust rise starts 0.011 s after ignition command
 - 5. Vertical rise until vehicle has gained 365 ft of altitude
 - 6. Single-axis-rotation (pitch, yaw, roll) maneuver after vertical rise
- c. First stage
 - 1. 1963 Patrick reference atmosphere
 - 2. ETR February mean wind (winter) (see Figure A-1)

FEBRUARY ETR MEAN WIND

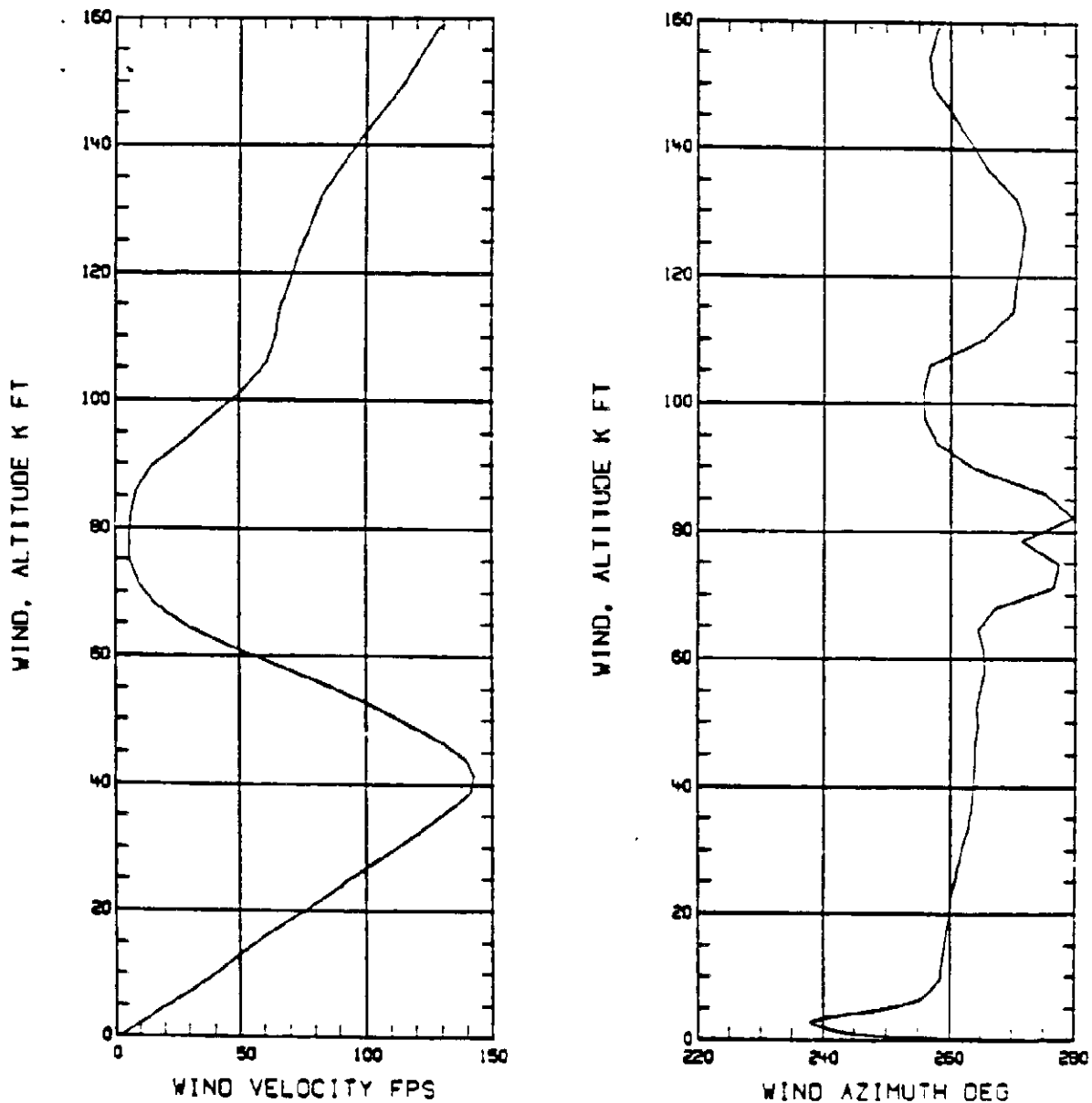


Figure A-1. Winter Mean Wind

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3. Flight control 10
4. Maximum dynamic pressure 675 psf (winter) (maximum dispersion = 819 psf)
5. Main propulsion system (MPS) throttle schedule (for all three engines), single-step throttle

I-Load Entries		Reference Values	
V _{rel} (fps)	Command Throttle (%)	Time (s)	Actual Throttle (%)
0	100	0	100
52.625	109	3.5	100
		4.4	109
1160	84	50.241	109
		52.741	84
1367.4	109	59.27	84
		61.77	109

6. SSME throttle change rate $\pm 10\%/s$
7. Elevon Schedule 6A

Relative Velocity Winter (fps)	Inboard Elevon Deflection (deg)	Outboard Elevon Deflection (deg)	Mach No. (Ref)
0	10	9	0
1147.6	10	9	1.05
1328.2	10	2	1.25
1581.9	10	-5	1.55
1779.9	10	-5	1.80
2304.9	3.333	-5	2.40
2506.3	1.111	0	2.60
2612.9	0	0	2.70

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8. 194 lb of spray-on foam insulation (SOFI) weight loss during first stage

Time (s)	SOFI Flow Rate (lb/s)
0	2.4
25.0	2.4
50.0	1.46
75.0	1.12
100.0	0.97
122.375	1.48015
122.38	0
150	0

d. Staging

1. SRB separation 6.0 s after $P_C = 50$ psi
2. Command SRB nozzle actuators to null 4.3 s after $P_C = 50$ psi
3. Attitude hold from SRB separation to 4.0 s after separation
4. Maximum dynamic pressure at separation shall not exceed 75 psf (with dispersions)
5. Begin SSME trim command after $P_C = 380$ psi (6-s ramp). Constant SRB trim command beyond V_{rel} corresponding to nominal $P_C = 380$ psi

e. Second stage

1. General

- (a) Maximum acceleration = 3 g's by MPS throttling
- (b) Alpha Limiter = 5° cone around $2^\circ\alpha$ prior to 150 s or 200,000 ft

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2. Pseudo-MECO trajectory

- (a) Three MPS engines at throttle setting = 109% full power level (FPL)
- (b) SSME throttle to reach 65% minimum power level (MPL) 6 s before MECO at -10%/s rate
- (c) Pseudo-MECO target conditions

h (equatorial)	74.5 nm
γ (inertial)	0.65°
v (inertial)	25676 fps
Inclination	28.5°
*Ascending Node	189.9939°

*Referenced to Greenwich at $t = 0$ s

3. Normal trajectory

- (a) MPS throttle setting = 109% (FPL)
- (b) Instantaneous pitch/yaw maneuver at abort mode boundary
- (c) SSME throttle to reach 65% (MPL) 6 s before MECO at -10%/s
- (d) MECO target conditions

h (equatorial)	57 nm
γ (inertial)	0.65°
v (inertial)	25,680 fps
Inclination	28.5°
Ascending Node	189.61857°

4. AOA trajectory

- (a) MPS throttle setting = 109% (FPL)
- (b) Engine failure occurs on No. 3 SSME
- (c) Parallel SSME from engine failure time to $t(\text{MECO}) - 60$ s
- (d) Aft Reaction Control System (RCS) burned pre-MECO to 65% level
- (e) Orbit maneuver system (OMS) and RCS used to burn off excess OMS and RCS propellants with 4.5 s allowed for auto connect and disconnect of OMS propellant supply to RCS engines

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(f) SSME is cutoff from existing power level (>65%)

(g) MECO target conditions

h (equatorial)	57 nm
gamma (inertial)	0.65°
v (inertial)	25,676 fps
Inclination	28.5°

Propulsion

a. Nominal thrust and specific impulse

1. SRM

(a) MSFC 86-80 data with ETR burn rate; 60°F grain temperature for February; lightweight cases (see Table A-1)

2. SSME

(a) $T_{vac} = 470,000$ lb [100% level rated power level (RPL)]

(b) $A_{exit} = 6464.36$ in² ($\Delta T = 95,000$ lb; $P_{ref} = 2116.22$ psf)

(c) $I_{spvac} = 455.15$ s for $T = 100\%$, mixture ratio (MR) at injector = 6.014:1

(d) $I_{spvac} = 455.25$ s for $T = 109\%$

(e) Pitch null = -16° (No. 1 engine) and -10° (No. 2 and No. 3 engines)

(f) Yaw null = 0° (all engines); No. 2 and No. 3 are electronically biased to 0 from their mechanical nulls of 3.5° outboard

3. OMS

(a) T_{vac} }
(b) I_{spvac} } = function OMS/RCS usage (see Tables A-2 and A-3)

(c) Pitch null = -15° 49'

(d) Yaw null = 6° 30' outboard (AOA pre-MECO burn executed at null attitude; post-MECO burns electronically biased to 0)

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Table A-1. MSFC 86-80 Motor Data - ETR Version (60°F)

SP4 THRUST AND FLOW RATE TABLE DELTA P=0.00								
TIME (SEC)	TIME FACTOR 1.000000			THRUST FACTOR 1.000000			FLOW RATE FACTOR 1.000000	
	VAC THRUST (LBS)	FLOW RATE (LBS/SEC)	HEAD PRES (PSI)	TIME (SEC)	VAC THRUST (LBS)	FLOW RATE (LBS/SEC)	HEAD PRES (PSI)	
0.000	0.0	0.000	14.700	75.316	2588616.0	9808.275	829.927	
0.197	1941085.8	9837.533	499.007	75.808	2594558.5	9829.704	831.109	
0.394	2531237.3	9838.378	735.953	76.301	2601436.3	9894.488	832.490	
0.591	2885710.8	10105.170	618.976	76.793	2608998.3	9881.809	833.981	
0.788	2929526.5	11007.022	800.981	77.285	2616181.5	9810.022	835.518	
0.985	2928813.0	10986.894	949.559	77.777	2617777.0	9817.256	836.632	
1.182	2927832.0	11000.747	945.635	78.270	2618894.8	9814.307	837.101	
1.379	2988161.8	11103.994	837.505	78.762	2614012.3	9804.883	837.197	
1.576	2988524.8	11226.437	835.958	79.254	2614980.5	9808.566	837.085	
1.773	2988524.8	11293.259	830.127	79.746	2610879.3	9883.037	836.948	
1.970	3008210.5	11258.675	827.042	80.238	2605106.3	9871.886	831.343	
2.167	3022587.3	11337.925	825.370	80.731	2592429.0	9825.141	828.009	
2.364	3046402.5	11446.211	828.143	81.223	2573421.3	9734.882	823.177	
2.561	3052665.8	11471.076	825.680	81.715	2560706.3	9707.533	819.893	
2.758	3081833.0	11505.941	824.656	82.208	2549339.5	9687.537	817.100	
2.955	3071600.0	11542.708	823.986	82.700	2538330.8	9688.575	811.623	
3.152	3078730.5	11570.252	822.888	83.192	2526532.5	9613.053	806.526	
3.349	3084673.8	11594.105	821.729	83.684	2501466.0	9486.902	804.720	
3.546	3085748.8	11627.253	821.578	84.177	2497160.8	9471.216	803.490	
3.743	3085688.8	11650.777	819.680	84.669	2492433.8	9417.193	800.684	
3.940	3105248.5	11678.512	819.380	85.161	2483295.0	9347.874	800.003	
4.137	3112713.0	11701.025	818.471	85.654	2480241.0	9297.238	801.508	
4.334	3116821.3	11716.194	818.209	86.146	2481168.8	9292.636	803.638	
4.531	3126002.5	11751.752	818.587	86.638	245276.8	9188.827	803.638	
4.728	3134496.0	11784.884	818.677	87.130	2450294.5	9118.958	803.369	
4.925	3140809.3	11808.713	818.684	87.623	2395888.3	9058.220	803.762	
5.122	3148820.0	11828.114	819.043	88.115	2371801.3	8984.638	803.927	
5.319	3148602.3	11842.994	819.043	88.607	2360453.0	8940.383	803.790	
5.516	3153048.5	11858.369	818.684	89.099	2344308.0	8807.790	803.032	
5.713	3155048.0	11884.831	818.482	89.592	2327163.5	8640.383	803.032	
5.910	3155735.3	11872.243	818.482	90.084	2318379.0	8507.790	803.032	
6.107	3155435.0	11796.331	808.483	90.576	2317047.3	8403.032	803.032	
6.304	3155872.0	11858.781	801.881	91.068	2302095.8	8247.988	803.032	
6.501	3157855.3	11944.347	793.035	91.561	2283175.0	8077.015	803.032	
6.698	3143852.0	11495.358	786.035	92.053	2265888.0	7888.983	803.032	
6.895	3120822.5	11370.128	779.420	92.545	2261355.3	7888.113	803.032	
7.092	2973076.0	11216.781	767.217	93.037	2252109.0	7888.113	803.032	
7.289	2838425.0	1087.980	755.412	93.530	2240555.0	7888.113	803.032	
7.486	2800515.5	10886.501	744.418	94.022	2227863.5	7888.113	803.032	
7.683	2883402.8	10780.080	733.804	94.514	2219174.3	7888.113	803.032	
7.880	2837576.3	10885.134	725.888	95.006	2209013.3	7888.113	803.032	
8.077	2801578.3	10981.884	715.420	95.498	2190880.5	7888.113	803.032	
8.274	2772878.8	10495.470	707.103	95.991	2188865.8	7888.113	803.032	
8.471	2743807.0	10350.224	698.704	96.483	2147804.0	7888.113	803.032	
8.668	2714948.8	10244.385	690.451	96.976	2135880.8	7888.113	803.032	
8.865	2688778.8	10138.884	682.342	97.468	2128583.1	7888.113	803.032	
9.062	2660883.3	10037.467	674.343	97.960	2111808.8	7888.113	803.032	
9.259	2633388.3	9943.868	666.928	98.452	2093818.5	7888.113	803.032	
9.456	2605318.3	9849.194	659.533	98.945	2083078.0	7888.113	803.032	
9.653	2580224.5	9755.722	652.098	99.437	2075029.5	7888.113	803.032	
9.850	2558003.5	9674.081	645.808	99.929	2070537.3	7888.113	803.032	
10.047	2538688.8	9598.985	639.094	100.421	2069433.0	7888.113	803.032	
10.244	2513888.8	9502.758	632.576	100.914	2059425.9	7888.113	803.032	
10.441	2494944.0	9435.824	627.271	101.406	2044291.3	7888.113	803.032	
10.638	2481175.8	9383.310	622.304	101.898	2019308.9	7888.113	803.032	
10.835	2469168.0	9325.323	618.220	102.390	2000800.9	7888.113	803.032	
11.032	2448688.3	9288.882	613.551	102.883	1980324.8	7888.113	803.032	

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Table A-1. MSFC 86-80 Motor Data - ETR Version (60°F) (Concluded)

24.273	24.30196.8	9203.192	808.461	103.375	1989181.6	7503.673	668.988
24.282	24.16316.5	9144.361	803.819	103.667	1983998.3	7450.417	668.463
24.288	24.04788.0	9102.184	800.138	104.359	1940338.3	7388.806	668.108
24.291	23.93425.0	9044.626	798.838	104.852	1927044.4	7350.198	668.810
24.298	23.82289.0	8948.920	798.868	105.344	1912773.0	7296.100	668.306
24.307	23.71357.1	8853.838	798.820	105.836	1897662.8	7239.681	668.768
24.318	23.60685.5	8757.513	798.464	106.329	1882169.4	7181.903	668.61
24.329	23.50243.0	8661.036	798.394	106.821	1866595.0	7123.613	668.142
24.340	23.40008.8	8567.739	798.508	107.313	1851109.3	7068.314	668.380
24.351	23.30009.3	8478.600	798.402	107.805	1835759.0	7008.415	668.040
24.362	23.20232.5	8394.605	798.703	108.298	182167.0	6957.926	668.180
24.373	23.10655.3	8311.098	798.468	108.794	1807994.1	6907.107	668.461
24.384	23.01233.8	8228.948	798.372	109.291	1794770.3	6857.994	668.550
24.395	22.92074.0	8148.167	798.388	109.789	1781951.6	6809.423	668.810
24.406	22.83075.5	8068.678	798.689	110.287	1769522.3	6762.293	668.040
24.417	22.74230.3	8000.460	798.466	110.785	1757493.1	6716.376	668.380
24.428	22.65580.3	7942.882	798.348	111.283	1745859.0	6671.403	668.610
24.439	22.57153.3	7890.608	798.466	111.781	1734607.0	6627.471	668.208
24.450	22.48920.5	7842.194	798.705	112.279	1723729.8	6584.580	668.208
24.461	22.40857.0	7797.615	798.463	112.777	1713232.5	6542.733	668.180
24.472	22.32932.8	7757.088	798.021	113.275	1703126.1	6501.927	668.461
24.483	22.25170.3	7720.514	798.388	113.773	1693407.5	6462.168	668.550
24.494	22.17587.3	7687.948	798.705	114.271	1684076.1	6423.453	668.810
24.505	22.10180.8	7659.371	798.466	114.769	1675132.3	6385.783	668.040
24.516	22.02942.3	7634.782	798.372	115.267	1666587.5	6349.157	668.380
24.527	21.95865.8	7614.189	798.466	115.765	1658441.1	6313.576	668.610
24.538	21.88940.3	7597.592	798.705	116.263	1650692.9	6279.040	668.810
24.549	21.82177.0	7584.995	798.466	116.761	1643349.7	6245.549	668.040
24.560	21.75569.5	7576.398	798.372	117.259	1636411.3	6213.103	668.380
24.571	21.69117.0	7571.801	798.466	117.757	1630077.7	6181.701	668.610
24.582	21.62819.5	7571.204	798.705	118.255	1624348.9	6151.343	668.810
24.593	21.56677.0	7574.607	798.466	118.753	1619225.1	6122.029	668.040
24.604	21.50689.5	7581.010	798.372	119.251	1614706.3	6093.760	668.380
24.615	21.44857.0	7590.413	798.466	119.749	1610792.5	6066.546	668.610
24.626	21.39179.5	7602.816	798.705	120.247	1607483.7	6040.387	668.810
24.637	21.33652.0	7617.219	798.466	120.745	1604679.9	6015.183	668.040
24.648	21.28284.5	7633.622	798.372	121.243	1602381.1	5990.934	668.380
24.659	21.23077.0	7652.025	798.466	121.741	1600587.3	5967.640	668.610
24.670	21.18020.5	7672.428	798.705	122.239	1599298.5	5945.301	668.810
24.681	21.13133.0	7694.831	798.466	122.737	1598514.7	5923.917	668.040
24.692	21.08405.5	7719.234	798.372	123.235	1598235.9	5903.488	668.380
24.703	21.03838.0	7745.637	798.466	123.733	1598462.1	5884.014	668.610
24.714	21.09430.5	7774.040	798.705	124.231	1599194.3	5865.496	668.810
24.725	21.05183.0	7804.443	798.466	124.729	1599532.5	5847.933	668.040
24.736	21.01095.5	7836.846	798.372	125.227	1599476.7	5831.325	668.380
24.747	20.97168.0	7871.249	798.466	125.725	1599025.9	5815.672	668.610
24.758	20.93400.5	7907.652	798.705	126.223	1598180.1	5800.974	668.810
24.769	20.89793.0	7946.055	798.466	126.721	1596945.3	5787.231	668.040
24.780	20.86346.5	7986.458	798.372	127.219	1595321.5	5774.444	668.380
24.791	20.83060.0	8028.861	798.466	127.717	1593307.7	5762.612	668.610
24.802	20.79933.5	8073.264	798.705	128.215	1590903.9	5751.735	668.810
24.813	20.76967.0	8119.667	798.466	128.713	1588109.1	5741.812	668.040
24.824	20.74160.5	8168.070	798.372	129.211	1584934.3	5732.845	668.380
24.835	20.71523.0	8218.473	798.466	129.709	1581379.5	5724.833	668.610
24.846	20.69056.5	8270.876	798.705	130.207	1577445.7	5717.776	668.810
24.857	20.66760.0	8325.279	798.466	130.705	1573132.9	5711.674	668.040
24.868	20.64633.5	8381.682	798.372	131.203	1568441.1	5706.527	668.380
24.879	20.62677.0	8439.085	798.466	131.701	1563379.3	5702.335	668.610
24.890	20.60890.5	8497.488	798.705	132.199	1557947.5	5700.098	668.810
24.901	20.59274.0	8556.891	798.466	132.697	1552145.7	5700.725	668.040
24.912	20.57827.5	8618.294	798.372	133.195	1545973.9	5703.217	668.380
24.923	20.56550.0	8681.697	798.466	133.693	1539442.1	5707.574	668.610
24.934	20.55443.5	8747.100	798.705	134.191	1532550.3	5713.897	668.810
24.945	20.54507.0	8814.503	798.466	134.689	1525308.5	5722.185	668.040
24.956	20.53740.5	8883.906	798.372	135.187	1517726.7	5732.438	668.380
24.967	20.53144.0	8955.309	798.466	135.685	1509804.9	5744.656	668.610
24.978	20.52707.5	9028.712	798.705	136.183	1501553.1	5758.839	668.810
24.989	20.52430.0	9104.115	798.466	136.681	1492971.3	5775.086	668.040
24.990	20.52313.5	9181.518	798.372	137.179	1484069.5	5793.500	668.380
25.001	20.52357.0	9260.921	798.466	137.677	1474847.7	5814.081	668.610
25.012	20.52560.5	9342.324	798.705	138.175	1465305.9	5836.830	668.810
25.023	20.52924.0	9425.727	798.466	138.673	1455444.1	5861.747	668.040
25.034	20.53447.5	9511.130	798.372	139.171	1445272.3	5888.832	668.380
25.045	20.54121.0	9608.533	798.466	139.669	1434790.5	5918.085	668.610
25.056	20.54955.5	9717.936	798.705	140.167	1423998.7	5949.608	668.810
25.067	20.55960.0	9830.339	798.466	140.665	1412806.9	5983.501	668.040
25.078	20.57134.5	9944.742	798.372	141.163	1401215.1	6019.774	668.380
25.089	20.58479.0	10071.145	798.466	141.661	1389233.3	6058.427	668.610
25.100	20.60003.5	10209.548	798.705	142.159	1376861.5	6100.460	668.810
25.111	20.61708.0	10359.951	798.466	142.657	1364099.7	6145.873	668.040
25.122	20.63593.5	10522.354	798.372	143.155	1350957.9	6194.676	668.380
25.133	20.65660.0	10696.757	798.466	143.653	1337436.1	6246.879	668.610
25.144	20.67907.5	10883.160	798.705	144.151	1323534.3	6302.482	668.810
25.155	20.70332.0	11081.563	798.466	144.649	1309252.5	6361.585	668.040
25.166	20.72947.5	11291.966	798.372	145.147	1294590.7	6424.188	668.380
25.177	20.75752.0	11514.369	798.466	145.645	1279548.9	6490.291	668.610
25.188	20.78756.5	11748.772	798.705	146.143	1264127.1	6559.994	668.810
25.199	20.81961.0	12005.175	798.466	146.641	1248325.3	6633.300	668.040
25.210	20.85375.5	12283.578	798.372	147.139	1232143.5	6710.313	668.380
25.221	20.88990.0	12583.981	798.466	147.637	1215581.7	6791.036	668.610
25.232	20.92814.5	12906.384	798.705	148.135	1198649.9	6875.479	668.810
25.243	20.96849.0	13250.787	798.466	148.633	1181348.1	6973.642	668.040
25.254	21.01093.5	13617.190	798.372	149.131	1163676.3	7085.525	668.380
25.265	21.05558.0	14005.593	798.466	149.629	1145634.5	7211.128	668.610
25.276	21.10243.5	14416.996	798.705	150.127	1127222.7	7350.451	668.810
25.287	21.15149.0	14851.399	798.466	150.625	1108440.9	7503.594	668.040
25.298	21.20274.5	15309.802	798.372	151.123	1089299.1	7670.657	668.380
25.309	21.25629.0	15792.205	798.466	151.621	1069807.3	7851.740	668.610
25.320	21.31213.5	16298.608	798.705	152.119	1050065.5	8046.843	668.810
25.331	21.37038.0	16829.011	798.466	152.617	1030073.7	8256.966	668.040
25.342	21.43103.5	17383.414	798.372	153.115	1009831.9	8482.109	668.380
25.353	21.49419.0	17961.817	798.466	153.613	989239.1	8722.272	668.610
25.364	21.56084.5	18564.220	798.705	154.111	968306.3	8977.465	668.810
25.375	21.63099.0	19190.623	798.466	154.609	947033.5	9247.698	668.040
25.386	21.70464.5	19841.026	798.372	155.107	925430.7	9532.971	668.380
25.397	21.78179.0	20515.429	798.466	155.605	903507.9	9833.294	668.610
25.408	21.86244.5	21213.832	798.705	156.103	881265.1	10148.667	668.810
25.419	21.94660.0	21936.235	798.466	156.601	858702.3	10479.090	668.040
25.430	22.03425.5	22692.638	798.372	157.099	835829.5	10824.563	668.380
25.441	22.12541.0	23483.041	798.466	157.597	812646.7	11185.086	668.610
25.452	22.22006.5	24307.444	798.705	158.095	789153.9	11560.659	668.810
25.463	22.31822.0	25165.847	798.466	158.593	765361.1	11951.282	668.040
25.474	22.41987.5	26058.250	798.372	159.091	741268.3	12357.055	668.380
25.485	22.52503.0	26994.653	798.466	159.589	716875.5	12778.078	668.610
25.496							

Table A-2. Variation of OMS/RCS Performance for Pre-MEOD Abort (Single Engine Values)

Data for RCS Jets Fueled from RCS Tank					
Acceleration Level (g's)	Number of RCS Jets Operating				
	Four + X			Twelve*	
	Thrust (lbs)	Flow Rate (lbs/s)	I _{sp} (s)	Thrust (lbs)	Flow Rate (lbs/s)
0	870	3.1071	280	838	2.9928
3	950	3.3928	280	920	3.2857
*Includes 4 + X thrusting RCS, remaining number are null RCS (used in ± pairs) with zero net + X thrust					
Data for OMS and RCS Fueled from OMS Tank					
Number of RCS Thrusters Firing With One OMS	Thrust (lbs)		Flow Rates (lbs/s)		
	Per OMS Engine	Per RCS Thruster	Per OMS Engine	Per RCS Thruster	Total One Pod
OMS + 0	6070	-	19.37	-	19.37
OMS + 2	5960	870	19.03	3.100	25.23
OMS + 6	5690	812	18.21	2.892	35.56
OMS + 9	5471	775	17.53	2.749	42.27
OMS + 12	5245	738	16.84	2.610	48.16

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4. RCS

- (a) T_{vac}
 (b) I_{spvac} } = function OMS/RCS usage (see Tables A-2 and A-3)
 (c) Pitch = -10.0°
 (d) Yaw = 0° } + X jets

Aerodynamics

July 1979 Aerodata Book, Rev. 2K-1

Mass Properties

a. Mass properties of elements

b. Element weights

Orbiter planning weight = 140,821 lb
 External tank (ET) planning weight = 70,990 lb
 SSME planning weight = 20,484 lb

c. MPS propellant weights

ET propellant weight at $t_0 - 5$ min = 1,592,124 lb
 Orbiter MPS at $t_0 - 5$ min = 5,039 lb
 Total MPS at $t_0 - 5$ min = 1,597,163 lb

d. SRB weights

SRB gross weight = 2,579,976 lb OMS = 19,700
 SRB inert weight = 365,727 lb RCS = 7,508

e. FPR and fuel bias

	(3 σ) Normal	(2 σ) AOA	(2 σ) RTLS
FPR (lb)	5551	3786	3786
LH ₂ Bias (lb)	1047	1100	1100

(Reverse Blank)

APPENDIX B—MISSION 3A CRITERIA INPUT REQUIREMENTS

Mission

- a. 32,000 lb payload
- b. 104° orbit inclination (normal mission)

Trajectory

- a. General
 1. Variable I_y shaping
 2. Last RTLS time equals earliest AOA time
- b. Launch
 1. Launch pad
 - Latitude = 34.58139° North
 - Longitude = 239.37472° East
 - Altitude = 430 ft

Altitude corresponds to booster station 1942 (11.36 in. below the base of the booster skirt)
 2. Orbiter tail-west orientation
 3. Staggered start on main engines. 120-ms delay between starts; each SSME reaches 90% thrust at 3.7 s after its start signal
 4. SRB ignition command defines t_0 and is issued 2.716 s after last SSME reaches 90% thrust. SRM thrust rise starts 0.011 s after ignition command
 5. Vertical rise until vehicle has gained 365 ft of altitude
- c. First stage
 1. 1971 Vandenberg reference atmosphere
 2. Vandenberg December mean wind (see Figure B-1)
 3. Flight control 10 (see Table B-1)
 4. Maximum dynamic pressure 650 psf, nominal (maximum dispersion = 819 psf)

Figure B-1. WTR Mean Wind

ORIGINAL
OF POOR

DECEMBER WTR MEAN WIND

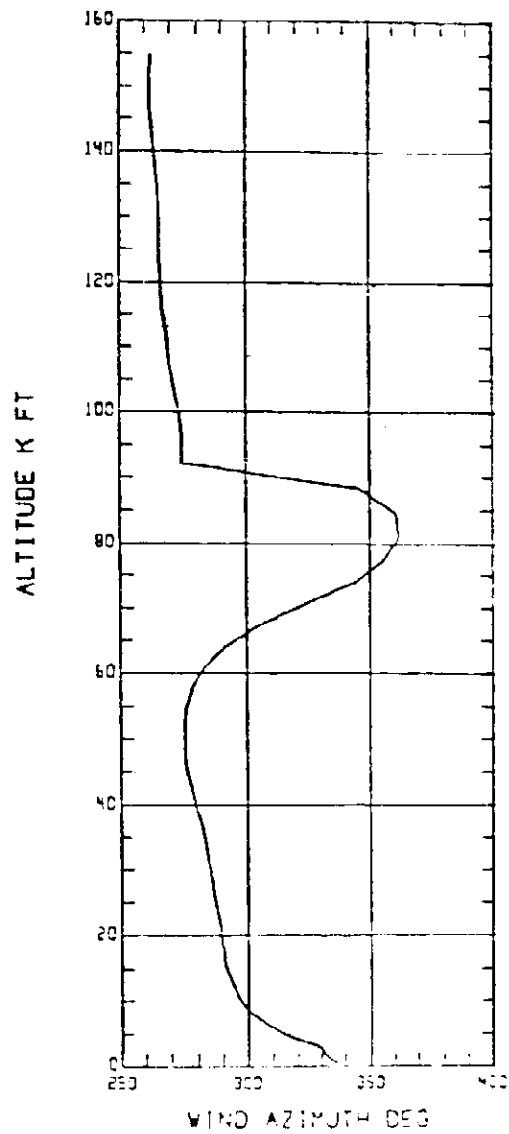
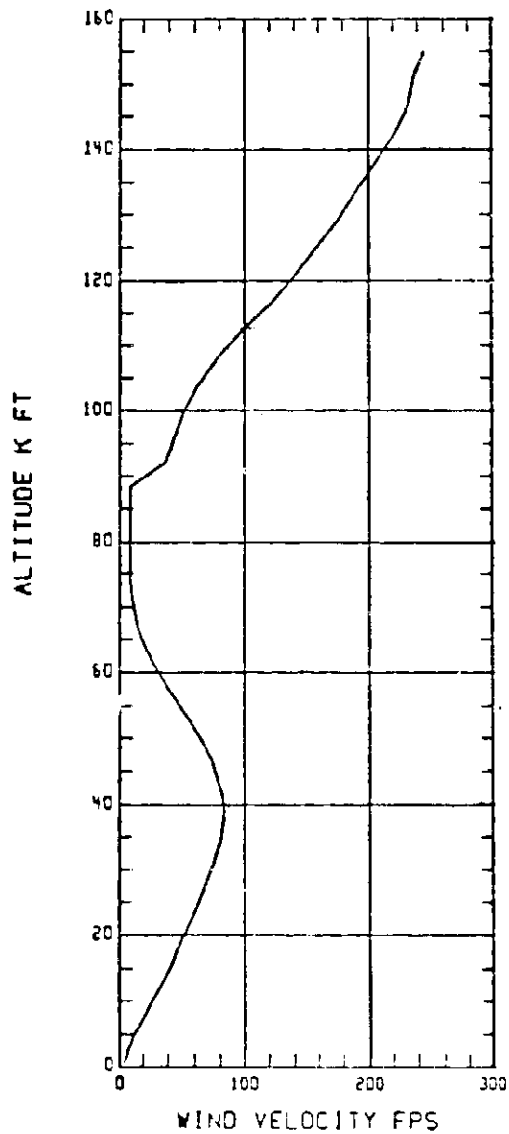


Table B-1. Flight Control 10

ORIGINAL PART 10
OF 2000 PART 109
YMISSION 3A WINTER LAUNCH DECEMBER MEAN WIND
SPM MSFC 86-80 DATA WTR VERSION SEM, 52 DEG
LOAD RELIEF 4-03-80 WEIGHTS PSEUDO ALT = 20 NM

FLIGHT CONTROL 10

RELATIVE VELOCITY	PITCH ATTITUDE	YAW ATTITUDE	ROLL ATTITUDE	I-LOAD INPUT TANGENT OF QUARTER ANGLE		
				PITCH	YAW	ROLL
0.00	90.000	180.000	90.000	.414214	1.000000	.414214
117.78	73.070	178.500	180.000	.330089	.986995	1.000000
375.05	73.070	178.500	180.000	.330089	.986995	1.000000
536.00	70.500	181.660	180.000	.317639	1.016542	1.000000
683.00	70.400	184.250	180.000	.317219	1.037793	1.000000
800.00	69.400	186.180	180.000	.312423	1.055439	1.000000
895.00	68.300	187.610	180.000	.307163	1.068717	1.000000
973.00	66.400	186.790	180.000	.298113	1.079807	1.000000
1048.00	64.500	189.820	180.000	.289108	1.089551	1.000000
1122.00	62.500	190.720	180.000	.279675	1.098215	1.000000
1202.00	60.600	191.550	180.000	.270757	1.106334	1.000000
1293.00	58.600	192.230	180.000	.261413	1.112856	1.000000
1407.00	56.000	192.520	180.000	.249529	1.116593	1.000000
1558.00	53.400	192.310	180.000	.237312	1.116338	1.000000
1733.00	50.700	191.770	180.000	.224901	1.108374	1.000000
1925.00	47.700	191.020	180.000	.211159	1.101107	1.000000
2252.00	42.800	189.920	180.000	.188952	1.090544	1.000000
2366.00	41.600	189.700	180.000	.183534	1.086445	1.000000
2502.00	39.500	189.400	180.000	.174078	1.085553	1.000000
2844.00	37.500	189.350	180.000	.165101	1.085114	1.000000
3094.00	35.700	189.410	180.000	.157043	1.085624	1.000000
3346.00	33.800	190.320	180.000	.148559	1.084372	1.000000
3607.00	32.100	190.670	180.000	.140986	1.083734	1.000000
3867.00	30.500	191.320	180.000	.133873	1.104007	1.000000
4129.00	29.000	192.020	180.000	.127216	1.110807	1.000000
4343.00	27.600	192.590	180.000	.121013	1.116379	1.000000
4401.00	26.900	192.810	180.000	.117915	1.118537	1.000000
4486.00	25.700	193.210	180.000	.112610	1.122474	1.000000
4571.00	23.400	193.580	180.000	.104663	1.126129	1.000000
4750.00	20.000	193.580	180.000	.087489	1.126129	1.000000

RELATIVE VELOCITY	NORMAL LOAD FACTOR	SIDE LOAD FACTOR	RELATIVE VELOCITY	SOME PITCH		I-LOAD INPUT LOADING PITCH GENERAL TRIM
				GENERAL TRIM	GENERAL TRIM	
0.00	.0706	0.0000	0.00	-2.700	-592	-4189
117.78	.0706	0.0000	117.78	0.000	-592	-4189
375.05	.0489	0.0000	375.05	0.000	-592	-4189
536.00	.0690	0.0000	536.00	0.000	-592	-4189
683.00	.1253	0.0000	683.00	0.000	-592	-4189
800.00	.1597	0.0000	800.00	0.000	-592	-4189
895.00	.1594	0.0000	895.00	0.000	-592	-4189
973.00	.1200	0.0000	973.00	0.000	-592	-4189
1048.00	.1310	0.0000	1048.00	0.000	-592	-4189
1122.00	.1290	0.0000	1122.00	0.000	-592	-4189
1202.00	.1459	0.0000	1202.00	0.000	-592	-4189
1293.00	.1452	0.0000	1293.00	0.000	-592	-4189
1407.00	.1557	0.0000	1407.00	0.000	-592	-4189
1558.00	.1313	0.0000	1558.00	0.000	-592	-4189
1733.00	.0650	0.0000	1733.00	0.000	-592	-4189
1925.00	.1038	0.0000	1925.00	0.000	-592	-4189
2252.00	.1448	0.0000	2252.00	0.000	-592	-4189
2366.00	.1595	0.0000	2366.00	0.000	-592	-4189
2502.00	.2246	0.0000	2502.00	0.000	-592	-4189
2844.00	.2246	0.0000	2844.00	0.000	-592	-4189

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5. MPS throttle schedule (for all three engines), single-step throttle

I-Load Entires		Reference Values	
V _{rel} (fps)	Command Throttle (%)	Time (s)	Actual Throttle (%)
0	100	0	100
		3.5	100
52.625	109	4.4	109
		34.7	109
818.665	65	39.1	65
		59.29	65
1326.567	109	63.69	109

6. SSME throttle change rate $\pm 10\%/s$
7. Elevon schedule 6A

Relative Velocity (fps)	Inboard Elevon Deflection (deg)	Outboard Elevon Deflection (deg)	Mach No. (Ref)
0	10	9	0
1092.406	10	9	1.05
1249.897	10	2	1.25
1496.753	10	-5	1.55
1718.813	10	-5	1.80
2305.636	3.333	-5	2.40
2520.737	1.111	0	2.60
2628.795	0	0	2.70

8. 194 lb of SOFI weight loss during first stage

SECRET

9
Y

Time (s)	SOFI Flow Rate (lbs/s)
0.	2.4
25.	2.4
50.	1.46
75.	1.12
100.	0.97
122.375	1.48015
122.38	0.
150.	0.

d. Staging

1. SRB separation 6.0 s after $P_C = 50$ psi
2. Command SRB nozzle actuators to null 4.3 s after $P_C = 50$ psi
3. Attitude hold from SRB separation to 4.0 s after separation
4. Maximum dynamic pressure at separation shall not exceed 75 psf (with dispersions)
5. Begin SSME trim command after $P_C = 380$ psi (6 s ramp). Constant SRB trim command beyond V_{rel} —corresponding to nominal $P_C = 380$ psi

e. Second stage

1. General

- (a) Maximum acceleration = 3 g's by MPS throttling
- (b) α limiter = 5° cone around $2^\circ \alpha$ prior to 150 s or 200,000 ft

2. Pseudo-MECO Trajectory

- (a) Three MPS engines at throttle setting = 109% (FPL)
- (b) SSME is throttled to reach 65% (MPL) 6 s before MECO at -10%/s

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(c) Pseudo-MECO target conditions

h (equatorial)	70 nm (r = 21,351,050 ft)
γ (inertial)	0.65°
v (inertial)	25,374 fps
Inclination	96.907°
Ascending Node	55.87913°*

3. Normal trajectory

- (a) MPS throttle setting = 109% (FPL)
- (b) Instantaneous pitch/yaw maneuver at abort mode boundary
- (c) SSME is throttled to reach 65% (MPL) 6 s before MECO at -10%/s
- (d) MECO target conditions

h (equatorial)	57 nm
γ (inertial)	0.65°
v (inertial)	25,374 fps
Inclination	104°
Ascending Node	51.83485°*

4. AOA Trajectory

- (a) MPS throttle setting = 109% (FPL)
- (b) Engine failure occurs on No. 3 SSME
- (c) Parallel SSME from engine failure time to t(MECO) - 60 s
- (d) Aft RCS burned pre-MECO to 65% level
- (e) OMS and RCS used to burn off excess OMS and RCS propellants (Enclosure 2) with interconnect
- (f) SSME is cutoff from existing power level (>65%)
- (g) MECO target conditions

h (equatorial)	57 nm
γ (inertial)	0.65°
v (inertial)	25,346 fps

Propulsion (Nominal Thrust and Specific Impulse)

a. SRM

1. MSFC 86-80 data with WTR burn rate for 52°F grain temperature for December (see Table B-2)

b. SSME

1. $T_{vac} = 470,000 \text{ lb}$ (100% power level RPL)
2. $A_{exit} = 6464.36 \text{ in}^2$ ($\Delta T = 95,000 \text{ lb}$; $P_{ref} = 2116.22 \text{ psf}$)
3. $I_{spvac} = 455.15 \text{ s}$ for $T = 100\% \text{ MR}$ at injector = 6.014:1
4. $I_{spvac} = 455.25 \text{ s}$ for $T = 109\%$
5. Pitch null = -16° (No. 1 engine) and -10° (No. 2 and No. 3 engines)
6. Yaw null = 0° (all engines); No. 2 and No. 3 are electronically biased to 0 from their mechanical nulls of 3.5° outboard

c. OMS

1. T_{vac}
 2. I_{spvac}
 3. Pitch null = $-15^\circ 49'$
 4. Yaw null = $6^\circ 30'$ outboard (AOA pre-MECO burn executed at null attitude; post-MECO burns electronically biased to 0)
- } = function OMS/RCS usage (see Tables B-3 and B-4)

d. RCS

1. T_{vac}
 2. I_{spvac}
 3. Pitch = -10.0°
 4. Yaw = 0°
- } + X jets

Aerodynamics

July 1979 Aerodata Book, Rev. 2K-1

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Table B-2. MSFC 86-80 Motor Data - WTR Version (52°F)

MISSION 34 WINTER LAUNCH DECEMBER MEAN WIND
SRM MSFC 86-80 DATA WTR VERSION SRM, 52 DEG
LOAD RELIEF 4-03-80 WEIGHTS PSEUDO ALT = 70 NM

SRM THRUST AND FLOW RATE TABLE
DELTA PMBT = 13.00

TIME (SEC)	TIME FACTOR 1.981327			THRUST FACTOR 1.015691			FLOW RATE FACTOR 1.015691		
	VAC THRUST (LBS)	FLOW RATE (LBS/SEC)	HEAD PRES (PSI)	VAC THRUST (LBS)	FLOW RATE (LBS/SEC)	HEAD PRES (PSI)	VAC THRUST (LBS)	FLOW RATE (LBS/SEC)	HEAD PRES (PSI)
0.000	0.0	0.000	14.929	73.910	2639589.4	9992.838	642.331	642.331	642.331
0.193	1571431.9	5948.614	509.833	74.332	2645689.7	10015.732	643.536	643.536	643.536
0.389	2581060.8	9719.662	750.027	74.676	2652662.1	10047.976	644.660	644.660	644.660
0.587	2739615.8	10297.459	824.924	75.059	2660056.9	10089.698	645.786	645.786	645.786
0.780	2957293.2	11215.472	877.936	75.642	2667677.3	10138.957	646.939	646.939	646.939
0.973	2994445.9	11208.152	866.329	76.225	2667324.6	10188.950	648.149	648.149	648.149
1.167	2995485.0	11210.078	865.267	76.808	2667210.9	10178.632	649.407	649.407	649.407
1.362	3013598.9	11216.243	863.997	77.291	2665483.6	10239.157	650.665	650.665	650.665
1.559	3047002.8	11440.062	852.419	77.774	2666065.2	10299.096	651.971	651.971	651.971
1.754	3054000.9	11467.436	846.473	78.257	2666291.1	10359.283	653.326	653.326	653.326
1.951	3055405.9	11510.618	842.328	78.741	2666404.4	10399.746	654.735	654.735	654.735
2.148	3052208.1	11573.115	842.642	79.223	2664247.5	10312.101	656.195	656.195	656.195
2.345	3102390.3	11664.018	844.450	79.706	2664035.6	9940.475	657.748	657.748	657.748
2.542	3112808.6	11689.357	841.949	80.189	26611139.1	9892.252	659.300	659.300	659.300
2.740	3122124.7	11724.477	840.698	80.673	26602151.3	9851.630	660.852	660.852	660.852
2.937	3132024.0	11762.352	840.211	81.156	26578117.1	9768.996	662.405	662.405	662.405
3.135	3139354.9	11790.420	839.092	81.639	26557928.9	9694.075	663.957	663.957	663.957
3.332	3145619.2	11914.727	837.910	82.121	2653723.3	9667.426	665.509	665.509	665.509
3.530	3154668.9	11848.545	837.754	82.605	2654333.3	9551.442	667.061	667.061	667.061
3.727	3160635.2	11872.477	835.951	83.088	2651336.7	9536.391	668.613	668.613	668.613
3.925	3166395.1	11894.626	836.127	83.571	2642447.1	9525.753	670.165	670.165	670.165
4.122	3174006.6	11923.685	835.608	84.055	2645443.6	9474.154	671.717	671.717	671.717
4.320	3177399.9	11939.302	834.321	84.537	2645179.7	9426.702	673.269	673.269	673.269
4.517	3187557.8	11975.374	834.918	85.020	2645915.2	9357.556	674.821	674.821	674.821
4.715	3196218.5	12009.136	835.002	85.503	26449354.2	9293.482	676.373	676.373	676.373
4.912	3202556.1	12033.418	834.605	85.987	26432540.3	9230.567	677.925	677.925	677.925
5.110	3207667.5	12053.169	835.171	86.470	26419505.3	9178.150	679.477	679.477	679.477
5.307	3211622.3	12067.944	835.171	86.952	26405933.5	9125.245	681.029	681.029	681.029
5.505	3215136.3	12082.592	835.171	87.435	26390471.6	9073.256	682.581	682.581	682.581
5.702	3217175.2	12090.604	835.009	87.919	26372386.5	9021.274	684.133	684.133	684.133
5.900	3218917.1	12095.157	834.599	88.402	2634403.1	8978.292	685.685	685.685	685.685
6.097	3186979.1	11979.734	825.423	88.885	2632573.1	8970.593	687.237	687.237	687.237
6.295	3159381.2	11876.595	817.467	89.367	2634742.2	8914.453	688.789	688.789	688.789
6.492	3126266.6	11764.022	809.651	89.851	26328133.8	8848.126	690.341	690.341	690.341
6.690	3103789.9	11673.340	801.513	90.334	26314391.5	8791.154	691.893	691.893	691.893
6.887	3083306.6	11595.466	794.769	90.817	26305684.9	8759.567	693.445	693.445	693.445
7.085	3037738.1	11430.202	782.325	91.300	2635456.1	8724.655	694.997	694.997	694.997
7.282	2995356.0	11278.163	770.287	91.783	2634675.6	8681.294	696.549	696.549	696.549
7.480	2957630.6	11134.419	759.077	92.266	2631559.8	8632.722	698.101	698.101	698.101
7.677	2919787.1	10955.241	748.101	92.749	2626262.9	8580.454	699.653	699.653	699.653
7.875	2893452.1	10955.649	740.162	93.232	26222511.8	8532.141	701.205	701.205	701.205
8.072	2858745.2	10762.643	723.508	93.716	2623916.0	8481.593	702.757	702.757	702.757
8.270	2827276.6	10654.425	721.027	94.199	26111169.2	8430.757	704.309	704.309	704.309
8.467	2797836.3	10547.176	712.462	94.591	2610097.2	8382.657	705.861	705.861	705.861
8.665	2769407.8	10439.323	704.047	95.165	26177839.2	8339.810	707.413	707.413	707.413
8.862	2739593.1	10332.613	695.776	95.648	26170498.0	8295.250	708.965	708.965	708.965
9.060	2711240.3	10225.468	687.522	96.131	2615339.2	8195.293	710.517	710.517	710.517
9.257	2685351.5	10133.118	680.099	96.614	26135040.6	8143.895	712.069	712.069	712.069
9.455	2657559.3	10041.707	672.928	97.097	26124036.7	8092.120	713.621	713.621	713.621
9.652	2630619.1	9951.552	665.958	97.580	26115636.0	8040.959	715.173	715.173	715.173
9.850	2610599.5	9859.74	659.625	98.063	26111004.0	8010.154	716.725	716.725	716.725
10.047	2585552.7	9769.414	651.679	98.546	26106104.2	8016.578	718.277	718.277	718.277
10.245	2565119.7	9673.622	645.032	99.030	26100971.8	7993.911	719.829	719.829	719.829
10.442	2544551.7	9615.371	639.670	99.512	2609446.6	7972.477	721.381	721.381	721.381
10.640	2530033.5	9591.663	635.170	99.995	2608700.8	7951.151	722.933	722.933	722.933
10.837	2514144.0	9558.773	630.334	100.478	2607949.4	7930.668	724.485	724.485	724.485
11.035	2497644.6	9442.015	625.582	100.962	2607253.1	7910.433	726.037	726.037	726.037

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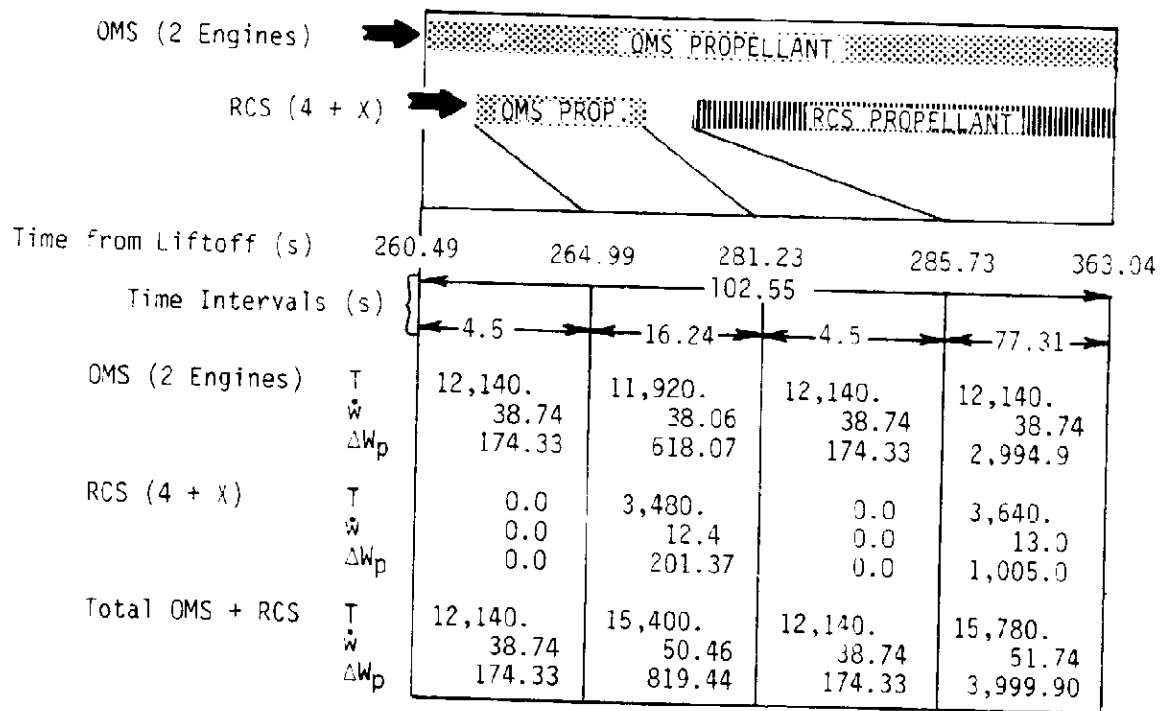
Table B-2. MSFC 86-80 Motor Data - WTR Version (52°F) (Concluded)

45.405	2480020.1	9376.318	620.442	101.445	20029.374	7646.454	479.243
46.375	2480020.1	9376.318	615.708	101.927	19999.712	7646.454	479.243
47.341	2480020.1	9376.318	612.159	102.410	19969.999	7646.454	479.243
48.307	2480020.1	9376.318	607.571	102.893	19940.286	7646.454	479.243
49.273	2480020.1	9376.318	602.454	103.377	19910.573	7646.454	479.243
50.239	2480020.1	9376.318	599.033	103.860	19880.860	7646.454	479.243
51.206	2480020.1	9376.318	595.052	104.343	19851.147	7646.454	479.243
52.171	2480020.1	9376.318	590.874	104.826	19821.434	7646.454	479.243
53.138	2480020.1	9376.318	586.350	105.309	19791.721	7646.454	479.243
54.103	2480020.1	9376.318	581.477	105.792	19762.008	7646.454	479.243
55.070	2480020.1	9376.318	576.200	106.275	19732.295	7646.454	479.243
56.036	2480020.1	9376.318	570.519	106.758	19702.582	7646.454	479.243
57.002	2480020.1	9376.318	564.438	107.241	19672.869	7646.454	479.243
58.968	2480020.1	9376.318	557.957	107.724	19643.156	7646.454	479.243
59.934	2480020.1	9376.318	551.076	108.207	19613.443	7646.454	479.243
60.900	2480020.1	9376.318	543.795	108.690	19583.730	7646.454	479.243
61.866	2480020.1	9376.318	536.114	109.173	19554.017	7646.454	479.243
62.832	2480020.1	9376.318	528.033	109.656	19524.304	7646.454	479.243
63.798	2480020.1	9376.318	519.552	110.139	19494.591	7646.454	479.243
64.764	2480020.1	9376.318	510.671	110.622	19464.878	7646.454	479.243
65.730	2480020.1	9376.318	501.390	111.105	19435.165	7646.454	479.243
66.696	2480020.1	9376.318	491.709	111.588	19405.452	7646.454	479.243
67.662	2480020.1	9376.318	481.628	112.071	19375.739	7646.454	479.243
68.628	2480020.1	9376.318	471.147	112.554	19346.026	7646.454	479.243
69.594	2480020.1	9376.318	460.266	113.037	19316.313	7646.454	479.243
70.560	2480020.1	9376.318	448.985	113.520	19286.600	7646.454	479.243
71.526	2480020.1	9376.318	437.304	114.003	19256.887	7646.454	479.243
72.492	2480020.1	9376.318	425.223	114.486	19227.174	7646.454	479.243
73.458	2480020.1	9376.318	412.742	114.969	19197.461	7646.454	479.243
74.424	2480020.1	9376.318	400.061	115.452	19167.748	7646.454	479.243
75.390	2480020.1	9376.318	387.180	115.935	19138.035	7646.454	479.243
76.356	2480020.1	9376.318	374.099	116.418	19108.322	7646.454	479.243
77.322	2480020.1	9376.318	360.818	116.901	19078.609	7646.454	479.243
78.288	2480020.1	9376.318	347.337	117.384	19048.896	7646.454	479.243
79.254	2480020.1	9376.318	333.656	117.867	19019.183	7646.454	479.243
80.220	2480020.1	9376.318	319.775	118.350	18989.470	7646.454	479.243
81.186	2480020.1	9376.318	305.694	118.833	18959.757	7646.454	479.243
82.152	2480020.1	9376.318	291.413	119.316	18929.944	7646.454	479.243
83.118	2480020.1	9376.318	276.932	119.799	18899.931	7646.454	479.243
84.084	2480020.1	9376.318	262.251	120.282	18869.718	7646.454	479.243
85.050	2480020.1	9376.318	247.370	120.765	18839.505	7646.454	479.243
86.016	2480020.1	9376.318	232.289	121.248	18809.292	7646.454	479.243
86.982	2480020.1	9376.318	217.008	121.731	18779.079	7646.454	479.243
87.948	2480020.1	9376.318	201.627	122.214	18748.866	7646.454	479.243
88.914	2480020.1	9376.318	186.146	122.697	18718.653	7646.454	479.243
89.880	2480020.1	9376.318	170.565	123.180	18688.440	7646.454	479.243
90.846	2480020.1	9376.318	154.884	123.663	18658.227	7646.454	479.243
91.812	2480020.1	9376.318	139.103	124.146	18628.014	7646.454	479.243
92.778	2480020.1	9376.318	123.222	124.629	18597.801	7646.454	479.243
93.744	2480020.1	9376.318	107.241	125.112	18567.588	7646.454	479.243
94.710	2480020.1	9376.318	91.160	125.595	18537.375	7646.454	479.243
95.676	2480020.1	9376.318	75.079	126.078	18507.162	7646.454	479.243
96.642	2480020.1	9376.318	58.998	126.561	18476.949	7646.454	479.243
97.608	2480020.1	9376.318	42.917	127.044	18446.736	7646.454	479.243
98.574	2480020.1	9376.318	26.836	127.527	18416.523	7646.454	479.243
99.540	2480020.1	9376.318	10.755	128.010	18386.310	7646.454	479.243
100.506	2480020.1	9376.318	-5.326	128.493	18356.097	7646.454	479.243
101.472	2480020.1	9376.318	-21.405	128.976	18325.884	7646.454	479.243
102.438	2480020.1	9376.318	-37.484	129.459	18295.671	7646.454	479.243
103.404	2480020.1	9376.318	-53.563	129.942	18265.458	7646.454	479.243
104.370	2480020.1	9376.318	-69.642	130.425	18235.245	7646.454	479.243
105.336	2480020.1	9376.318	-85.721	130.908	18205.032	7646.454	479.243
106.302	2480020.1	9376.318	-101.800	131.391	18174.819	7646.454	479.243
107.268	2480020.1	9376.318	-117.879	131.874	18144.606	7646.454	479.243
108.234	2480020.1	9376.318	-133.958	132.357	18114.393	7646.454	479.243
109.200	2480020.1	9376.318	-150.037	132.840	18084.180	7646.454	479.243
110.166	2480020.1	9376.318	-166.116	133.323	18053.967	7646.454	479.243
111.132	2480020.1	9376.318	-182.195	133.806	18023.754	7646.454	479.243
112.098	2480020.1	9376.318	-198.274	134.289	17993.541	7646.454	479.243
113.064	2480020.1	9376.318	-214.353	134.772	17963.328	7646.454	479.243
114.030	2480020.1	9376.318	-230.432	135.255	17933.115	7646.454	479.243
114.996	2480020.1	9376.318	-246.511	135.738	17902.902	7646.454	479.243
115.962	2480020.1	9376.318	-262.590	136.221	17872.689	7646.454	479.243
116.928	2480020.1	9376.318	-278.669	136.704	17842.476	7646.454	479.243
117.894	2480020.1	9376.318	-294.748	137.187	17812.263	7646.454	479.243
118.860	2480020.1	9376.318	-310.827	137.670	17782.050	7646.454	479.243
119.826	2480020.1	9376.318	-326.906	138.153	17751.837	7646.454	479.243
120.792	2480020.1	9376.318	-342.985	138.636	17721.624	7646.454	479.243
121.758	2480020.1	9376.318	-359.064	139.119	17691.411	7646.454	479.243
122.724	2480020.1	9376.318	-375.143	139.602	17661.198	7646.454	479.243
123.690	2480020.1	9376.318	-391.222	140.085	17630.985	7646.454	479.243
124.656	2480020.1	9376.318	-407.301	140.568	17600.772	7646.454	479.243
125.622	2480020.1	9376.318	-423.380	141.051	17570.559	7646.454	479.243
126.588	2480020.1	9376.318	-439.459	141.534	17540.346	7646.454	479.243
127.554	2480020.1	9376.318	-455.538	142.017	17510.133	7646.454	479.243
128.520	2480020.1	9376.318	-471.617	142.500	17479.920	7646.454	479.243
129.486	2480020.1	9376.318	-487.696	142.983	17449.707	7646.454	479.243
130.452	2480020.1	9376.318	-503.775	143.466	17419.494	7646.454	479.243
131.418	2480020.1	9376.318	-519.854	143.949	17389.281	7646.454	479.243
132.384	2480020.1	9376.318	-535.933	144.432	17359.068	7646.454	479.243
133.350	2480020.1	9376.318	-552.012	144.915	17328.855	7646.454	479.243
134.316	2480020.1	9376.318	-568.091	145.398	17298.642	7646.454	479.243
135.282	2480020.1	9376.318	-584.170	145.881	17268.429	7646.454	479.243
136.248	2480020.1	9376.318	-600.249	146.364	17238.216	7646.454	479.243
137.214	2480020.1	9376.318	-616.328	146.847	17208.003	7646.454	479.243
138.180	2480020.1	9376.318	-632.407	147.330	17177.790	7646.454	479.243
139.146	2480020.1	9376.318	-648.486	147.813	17147.577	7646.454	479.243
140.112	2480020.1	9376.318	-664.565	148.296	17117.364	7646.454	479.243
141.078	2480020.1	9376.318	-680.644	148.779	17087.151	7646.454	479.243
142.044	2480020.1	9376.318	-696.723	149.262	17056.938	7646.454	479.243
143.010	2480020.1	9376.318	-712.802	149.745	17026.725	7646.454	479.243
143.976	2480020.1	9376.318	-728.881	150.228	16996.512	7646.454	479.243
144.942	2480020.1	9376.318	-744.960	150.711	16966.299	7646.454	479.243
145.908	2480020.1	9376.318	-761.039	151.194	16936.086	7646.454	479.243
146.874	2480020.1	9376.318	-777.118	151.677	16905.873	7646.454	479.243
147.840	2480020.1	9376.318	-793.197	152.160	16875.660	7646.454	479.243
148.806	2480020.1	9376.318	-809.276	152.643	16845.447	7646.454	479.243
149.772	2480020.1	9376.318	-825.355	153.126	16815.234	7646.454	479.243
150.738	2480020.1	9376.318	-841.434	153.609	16785.021	7646.454	479.243
151.704	2480020.1	9376.318	-857.513	154.092	16754.808	7646.454	479.243
152.670	2480020.1	9376.318	-873.592	154.575	16724.595	7646.454	479.243
153.636	2480020.1	9376.318	-889.671	155.058	16694.382	7646.454	479.243
154.602	2480020.1	9376.318	-905.750	155.541	16664.169	7646.454	479.243
155.568	2480020.1	9376.318	-921.829	156.024	16633.956	7646.454	479.243
156.534	2480020.1	9376.318	-937.908	156.507	16603.743		

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Table B-3. OMS and RCS Burn-Dump Sequencing for AOA (Pre-MECO)

OMS & RCS Burn-Dump Sequencing for AOA (Pre-MECO)



T = Thrust (lbs); \dot{W} = Flow Rate (lbs/s); ΔW_p = Propellant increment (lbs)

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Table B-4. Variation of OMS/RCS Performance for Pre-MECO
Abort (Single Engine Values)

Data for RCS Jets Fueled from RCS Tank					
Acceleration Level (g's)	Number of RCS Jets Operating				
	Four + X			Twelve*	
	Thrust (lbs)	Flow Rate (lbs/s)	isp (s)	Thrust (lbs)	Flow Rate (lbs/s)
0	870	3.1071	280	838	2.9928
3	950	3.3928	280	920	3.2857
*Includes 4 + X thrusting RCS, remaining number are null RCS (used in ± pairs) with zero net + X thrust					
Data for OMS and RCS Fueled from OMS Tank					
Number of RCS Thrusters Firing with One OMS	Thrust (lb)		Flow Rates (lbs/s)		
	Per OMS Engine	Per RCS Thruster	Per OMS Engine	Per RCS Thruster	Total One Pod
OMS + 0	6070	-	19.37	-	19.37
OMS + 2	5960	870	19.03	3.100	25.23
OMS + 6	5690	812	18.21	2.892	35.56
OMS + 9	5471	775	17.53	2.749	42.27
OMS + 12	5245	738	16.84	2.610	48.16

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Mass Properties

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a. Mass properties of elements

b. Element weights

Orbiter planning weight = 140,821 lb
ET planning weight = 70,990 lb
SSME planning weight = 20,484 lb

c. MPS propellant weights

ET propellant weight at $t_0 - 5$ min = 1,592,124 lb
Orbiter MPS = 5,039 lb
TOT MPS at $t_0 - 5$ min = 1,597,163 lb

d. SRB weights

SRB gross weight = 2,579,976 lb
SRB inert weight = 365,722 lb

e. FPR and Fuel Bias

	(35) <u>Normal</u>	(25) <u>AOA</u>	(25) <u>RTLS</u>
FPR (lb)	5767	3632	3107
LH ₂ Bias (lb)	1047	1100	1100

APPENDIX C--DERIVATION OF ERRORS AND UNCERTAINTIES

SRB Terminal Mismatch Data*

Time (Previous Data)	Left Motor (Low)	Right Motor (High)	(ETR @ 60 F) Flow Rate (lbs/s)
112.2	1,577,500	1,845,500	6472.9
113.4	1,353,500	1,923,600	6285.2
114.6	1,105,580	1,775,580	5672.7
115.8	721,700	1,431,700	4104.5
117.0	431,760	1,011,760	2791.1
118.2	331,640	801,640	2143.6
119.4	246,470	616,470	1779.7
120.6	191,450	481,450	1430.6
121.8	164,470	384,470	1145.9
123.0	131,750	291,750	843.9
124.2	87,590	187,590	509.7

(WTR @ 52 F)

110.10484	1,608,563.1	1,881,840.4	6596.1
111.28243	1,380,254	1,961,478	6404.8
112.46002	1,127,350	1,810,544	5780.6
113.63761	735,911	1,459,892	4182.6
114.81521	440,262	1,031,683	2844.2
115.9928	338,170	817,425	2184.4
117.17039	251,323	628,609	1813.6
118.34798	195,220	490,930	1457.8
119.52557	167,709	392,041	1167.7
120.70317	134,344	297,495	860.0
121.88076	89,315	191,284	519.5

*Ref: EL01 (112-80), 29 May 1980

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Derivation of the SRB Thrust
Vector Angular Misalignment Error

- | | |
|-----------------------------------|------------|
| 1) Cone 1/2 angle | = 1.0 deg |
| 2) SRB/ET centerline misalignment | = 0.12 deg |
| 3) Electronics/actuator errors | = 0.3 deg |

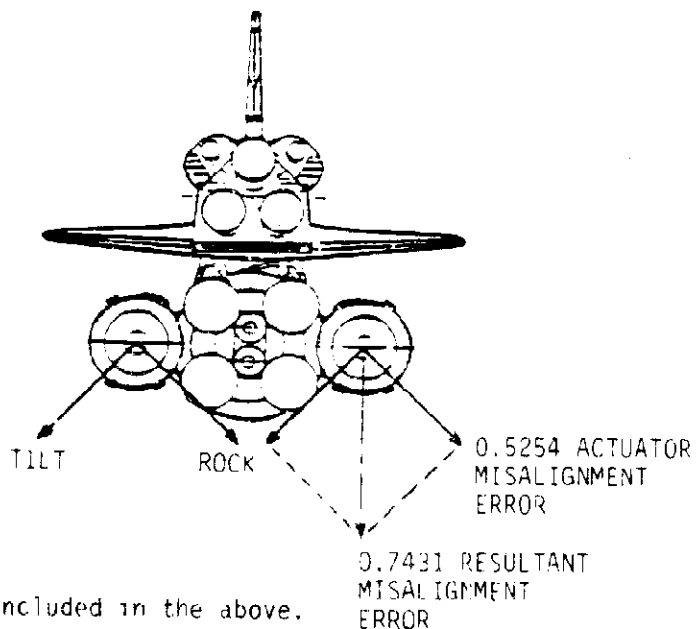
RCS 1.0509

Average RSS of 2 SRBs = $\sqrt{2}/2$ = x 0.707

Resultant misalignment error = 0.7431

Component of the actuator
misalignment in the pitch
or yaw plane (cosine of 45°) = x 0.707
0.5254 deg.

0.5254 left, right (tilt, rock) per motor



"Nozzle Pivot Center Shift" is included in the above.

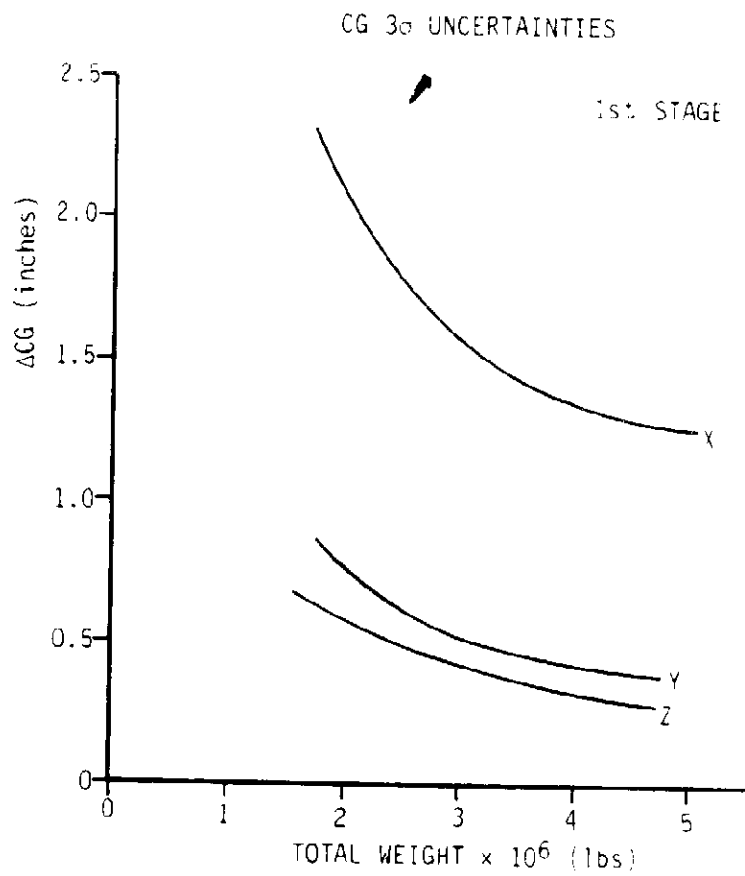
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Derivation of SSME Thrust Vector
Angular Misalignments (Pitch, Yaw)

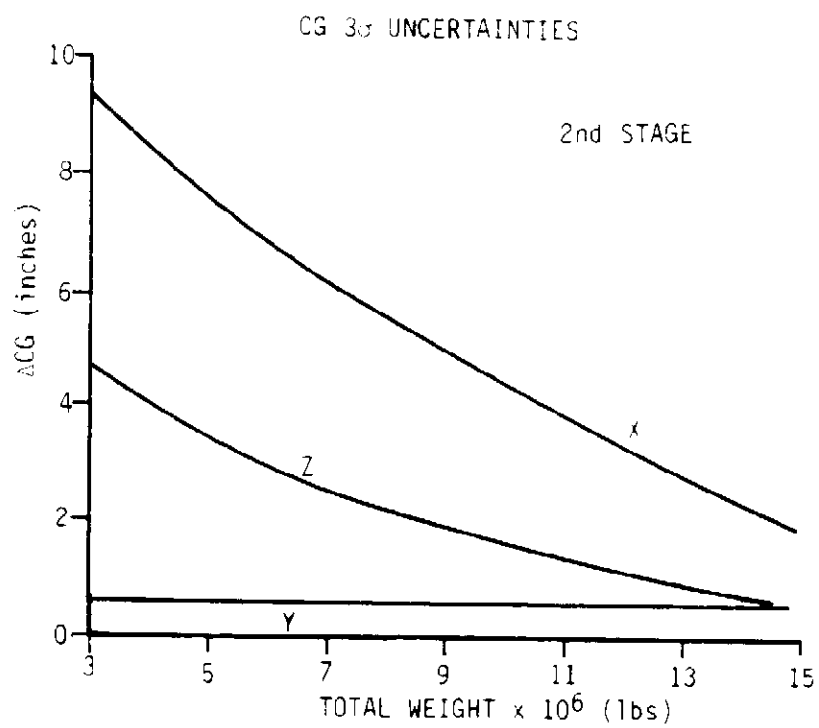
	Engine #1		Engine #2		Engine #3	
	<u>P</u>	<u>Y</u>	<u>P</u>	<u>Y</u>	<u>P</u>	<u>Y</u>
1) Actuator System (+)	.534	.441	.537	.606	.537	.455
2) 15% of Nominal Thrust (+) Structure Deformation	.098	.060	.076	.015	.249	.071
3) Combination of:						
a) $\pm 0.25^\circ$ installation tolerance						
b) $\pm 0.546^\circ$ dynamic thrust vector (includes ± 0.6 in. eccentricity)						
c) $\pm 0.09^\circ$ ET Q_L misalignment						
	} = $\pm 0.607^\circ$ (P, Y)					
4) Nominal thrust structure deformation (deterministic)	.654	-.399	+.510	+.098	+1.663	-.476
5) RSS (1), (2), and (3); add (4) per engine; then RSS 3 engines and divide by 3						
6) Results	<u>P</u>	<u>Y</u>				
	+1.066	+.353				
	-0.115	-.618				
7) Use largest of pitch, yaw values for simulation; P = ± 1.066 , Y = $\pm .618$						

NOTE: (1), (2), and (3) are dependent on gimbal angle deflections
(flight averaged).

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Derivation of Accelerometer Errors

1) ACCURACY		<u>Normal (g's)</u>	<u>Lateral (g's)</u>
a) AA null offset (includes vibration)		0.021	0.014
b) AA noise		0.020	0.020
c) MDM noise		0.024	0.006
d) MDM bias		0.025	0.006
e) AA scale factor P (0.028 x 0.20 g), Y (0.032 x 0.004 g)		<u>0.006</u>	<u>0.000</u>
RSS	=	<u>+0.046</u>	<u>+0.026</u>
f) MDM quantization (add 1/2 value)		<u>0.004</u>	<u>0.001</u>
Σ	=	<u>+0.050</u>	<u>+0.027</u>
Apply mid-select (x 0.67)	=	<u>+0.034</u>	<u>+0.018</u>
2) ALIGNMENT		<u>Normal (deg)</u>	<u>Lateral (deg)</u>
a) Accel. to AA axes	}	<u>+0.43</u>	<u>+0.43</u>
b) AA axes to body axes			
c) Bulkhead flexure (deterministic)		<u>0</u>	<u>+0.23</u>
		<u>+0.43°</u>	<u>+0.66°</u>
Apply mid-select (x 0.67)	=	<u>+0.288°</u>	<u>+0.442°</u>

Derivation of Rate Gyro Assembly Errors
(Pitch, Yaw)

ACCURACY:

		DEG/S
a) DC zero offset -		
	Static	= 0.10
	Vibrational	= 0.15
b) Threshold		= 0.02
c) Hysteresis		= 0.02
d) Linear acceleration sensitivity (0.05°/S/g)	{ P Y	= 0.05 x 0.15 ~ 0.008 = 0.05 x 0.002 = 0.0
e) Linearity		= 0.05
f) Scale factor	{ P Y	= 0.051 x 0.5 = 0.026 = 0.051 x 0.1 = 0.005
g) Noise		= 0.05
h) Angular acceleration sensitivity (0.003 deg/s²)		= Negligible
i) Zero offset due to temperature variations		= 0.002 x 40 = 0.08
j) MDM -		
	Noise	= 0.12
	bias	= <u>0.12</u>
	RSS	{ P Y
		= 0.273 = 0.271
k) MDM quantization x 1/2		= <u>0.059</u>
	SUM	{ P Y
		= 0.332 = 0.330
Apply mid-select factor (0.67)		
		= 0.222
Average RSS of 2 SRBs (x.272)		
		= 0.157

NOTE: RGA misalignment (± 0.744 deg) neglected

3 σ MECO Targeting Errors (+)

<u>NORMAL</u>	<u>NAV</u>	<u>G&C</u>	<u>RSS</u>
ΔV_i (fps)	9.27	7.95	12.21
$\Delta \gamma_i$ (deg)	0.041	0.06	0.073
Δr (ft)	2016.0	1155.0	2323.0
Δi (deg)	0.103	--	0.103

AOA

ΔV	10.21		12.94
ΔY	0.04	SAME	0.072
Δr	3148.0	AS	3353.0
Δi	0.084	ABOVE	0.084

RTLS

ΔV	10.04	SAME	12.88
ΔY	0.038	AS	0.071
Δr	2310.0	ABOVE	2583.0

NOTES:

- 1) The variables are treated independently.
- 2) Nodal errors neglected.

APPENDIX D—COMPUTER PROGRAM FOR DISPERSION ANALYSIS

The following ASCII Fortran computer program has been written to facilitate the RSS analysis performed on the dispersed set of trajectories. Also provided via this program is a tabular listing of the time ordered dispersion as a function of the dispersion type. Output of this program has been compiled in Appendices F, G, H, and I.

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56. C 03 SRM ISP 03 CM
57. C 04 SRM THR MISMATCH 04 CV
58. C 05 SRM ISP MISMATCH 05 CMB
59. C 06 SRM THR MISMATCH (P) 06 CL
60. C 07 SRM THR MISALIGNMENT (V) 07 BASE FORCE
61. C 08 SSME VAC THR 08 ATMOSPHERE
62. C 09 SSME VAC ISP
63. C 10 SSME THR MISALIGN (P)
64. C 11 SSME THR MISALIGN (V)
65. C
66. C
67. C
68. C
69. C
70. C
71. C
72. C
73. C
74. C
75. C
76. C
77. C
78. C
79. C
80. C
81. C
82. C
83. C
84. C
85. C
86. C
87. C
88. C
89. C
90. C
91. C
92. C
93. C
94. C
95. C
96. C
97. C
98. C
99. C
100. C
101. C
102. C
103. C
104. C
105. C
106. C
107. C
108. C
109. C
110. C
111. C
112. C

```

```

*****
      MASS PROP
*****
01 ET PROP WT
02 SRB PROP WT
03 SRB INERT WT
04 2ND STAGE INERT WT
05 VEH CG (X 1ST STAGE)
06 VEH CG (Y 1ST STAGE)
07 VEH CG (Z 1ST STAGE)
08 VEH CG (X 2ND STAGE)
09 VEH CG (Y 2ND STAGE)
*****
      GN/C
*****
01 ACCEL ERROR (NORMAL)
02 ACCEL ERROR (LATERAL)
03 RATE GYRO (NORMAL)
04 RATE GYRO (LATERAL)
05 IMU PLATFORM (PITCH)
06 IMU PLATFORM (YAW)
07 IMU PLATFORM (ROLL)
08 RECD TARS
*****
      MYTYPE - DISPERSION TYPE
      0, POSITIVE
      1, NEGATIVE
*****
      70 NR=NR+1
      READ(8, NR, ERR=30) VAR, IVAR
      IF (IVAR.NE.9999) GO TO 25
      ISFOR=1
      22 NR=200*(NR/200+1)+1
      IA=IA-1
      IF (NR.GE.NRMAX) GO TO 40
      GO TO 10
      25 CONTINUE
      IA=IA+1
      IF (IA.GT.50) GO TO 22
      IF (JTYPE.EQ.1) TIME(IA)=VAR(1)
      IF (JTYPE.EQ.1) TIME(IA)=VAR(1)
      STORE(IA, JTYPE, 1, K)=STORE(IA, 1, 1, 1)
      STORE(IA, JTYPE, 2, K)=STORE(IA, 1, 2, 1)
      STORE(IA, JTYPE, 3, K)=STORE(IA, 1, 3, 1)
      GO TO 25
      26 CONTINUE
      STORE(IA, JTYPE, 1, K)=VAR(4)
      STORE(IA, JTYPE, 2, K)=VAR(2)
      STORE(IA, JTYPE, 3, K)=VAR(3)
      GO TO 25
      30 WRITE(10, 35)
      35 FORMAT(1X, ' ERROR IN READING FILE 8')
      STOP
      40 IPL=IPL+50
      40M=40M+1
      GO TO 101, 11
      GO TO 101, 3

```

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113.  RSPIT,M1=0.
119.  RSSNIT,M1=0.
115.  DO 50 J=2,NOM1
116.  US1=0.
117.  OS2=0.
119.  IF I1CT(I,J,2)-NE,11 GO TO 45
119.  DS1=STORE(I,J,K,1)-STORE(I,I,K,1)
120.  OS12=DS1+DS1
121.  IF IDS1-G1,G1) RSPIT,M1=RSPIT,M1+DS12
122.  IF IDS1-L1,L1) RSSNIT,M1=RSSNIT,M1+DS12
123.  IF I1CT(I,J,2)-NE,11 GO TO 50
124.  DS2=STORE(I,J,K,2)-STORE(I,I,K,1)
125.  OS22=DS2+DS2
126.  IF IDS1+OS2-G1,G1) GO TO 46
127.  IF IDS2-G1,G1) RSPIT,M1=RSPIT,M1+OS22
128.  IF IDS2-L1,L1) RSSNIT,M1=RSSNIT,M1+OS22
129.  GO TO 50
130.  IF IDS1-G1,G1) RSPIT,M1=RSPIT,M1+DS12
131.  IF IDS1-L1,L1) RSSNIT,M1=RSSNIT,M1+DS12
132.  OS3=ARAB(I,DS12,DS22)
133.  IF IDS1-G1,G1) RSPIT,M1=RSPIT,M1+OS3
134.  IF IDS1-L1,L1) RSSNIT,M1=RSSNIT,M1+OS3
135. 50 CONTINUE
136.  DO 60 I=1,1A
137.  DO 60 M=1,3
138.  RSPIT,M1=RSORT(RSPIT,M1)
139.  RSSNIT,M1=RSORT(RSSNIT,M1)
140. 60 CONTINUE
141.  C
142.  C
143.  C
144.  DO 80 L=2,6
145.  IF I1CT(I,L)
146.  J=I+L-1
147.  L=J-L-1
148.  DO 90 J=1,3
149.  DO 80 M=1,2
150.  DO 80 M=1,1A
151.  NN=0
152.  DO 70 N=1,J,J
153.  NVENN=1
154.  OTSPINN=0.
155.  IF I1CT(M,N)-EQ,01 GO TO 70
156.  DSPI(N)=STORE(M,N,J,K)-STORE(M,I,J,1)
157. 70 CONTINUE
158.  IF (M,NE,1) GO TO 75
159.  *REFE(6,30) J1CT(M),NAME(J),TT(M)
160.  WRITE(6,310) I1,I1,NN
161.  WRITE(6,315)
162. 75 CONTINUE
163.  IF ISTORE(M,I,J,1)+RSSNIT,M1)
164.  IF ISTORE(M,I,J,1)-RSSNIT,M1)
165.  *REFE(6,320) TIME(M),STORE(M,I,J,1),IDISP(I),I1,NN)
166.  *RSSNIT,M1,RSSNIT,M1,TP,TN
167. 80 CONTINUE
168.  IF I1
169.  LVAC=0
159.

```

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170. 00 00 I=1,1A
171.  LQ=LR+1
172.  WRITE(8,LR) TIME(I),IRSSPI(I),RSSMT(I,J),J=1,3),EXTRA,LVAR
173.  00 CONTINUE
174.  IF(TOL*11.200.AND.1STOP.EQ.0) GO TO 19
175.  LQ=LR+1
176.  LVAR=9999
177.  WRITE(8,LR) VAR,LVAR
178.  STOP
179.  C
180.  100 FORMAT(13I2-11,12,I1)
181.  200 '00MAT(13.8)
182.  300 FORMAT(1H1/60X,A12/1151,2A6)
183.  400 FORMAT(11X,6512H *5/XX,TIME',YX,'QOH VAL',12I3X,12,2X1)
184.  500 FORMAT(11X,6512H *5)
185.  600 FORMAT(1X,FE,1,17F7.1)
186.  700 FORMAT(1H1)
187.  END
*WARNING 2606 VARIABLE 'EXTRA' IS REFERENCED BUT IS NEVER ASSIGNED A VALUE
END FTN 1 WARNING 559 19ANK 14597 08ANK

```

APPENDIX E—COMPUTER FILE INPUT/OUTPUT REQUIREMENTS

Two resident files associated with Mission 1 and Mission 3A are provided on the MSFC Univac computer system. These files are direct access files which contain time ordered data associated with all trajectories which have been simulated in this study. This appendix has been written to aid the future use of these files by defining their input/output requirements.

The structure of each file is the same for both missions and therefore the input/output requirements can be treated in a generic fashion. A file is made up of 16,000 records and each record consists of 13 words. In a Fortran program, the programmer must have the following statement before any executable statements:

`'DEFINE FILE N(16000,13,U,1P)'`

The letter N is given a numerical value depending on the programmer's choice of file numbers. This file will be identified by proper control cards to assign the chosen numerical value to the stored file. The 16000 and 13 refer to the number of elements and words per element, respectively. The Univac programmer's manual should be consulted for the additional parameters on this statement.

The Fortran read statement for this file is the following:

`'READ(N,NR)VAR,IVAR'`

where

N - file number

NR - number of requested record (1 to 16000)

VAR - a storage array consisting of 12 parameters:

- (1) - time from liftoff (s)
- (2) - angle of attack (α) (deg)
- (3) - sideslip angle (β) (deg)
- (4) - aerodynamic heating indicator (BTU)
- (5) - dynamic pressure (lb/ft^2)

- (6) - altitude (ft)
- (7) - earth relative velocity (ft/s)
- (8) - airspeed (ft/s)
- (9) - radius from the earth's center (ft)
- (10) - inertial velocity (ft/s)
- (11) - inertial flight path angle (γ) (deg)
- (12) - Mach number

IVAR - multipurpose variable flag used to specify the contents of the records. Table E-1 identifies the way the variable is used.

All trajectory cases are stored within a maximum of 200 records and therefore the start of each trajectory will begin at some multiple of 200 plus 1. The normal mode of reading this data is to interrogate the starting record which indicates by the value of IVAR the type of trajectory and continuing reading sequential records until the value of IVAR is equal to 9999 (which specifies the end of the trajectory data).

The only data on the file that do not correspond to the above definition of the VAR array are associated with IVAR = 5100. In this case, the VAR array is defined in the following manner:

- VAR(1) - time from liftoff (s)
- (2) - positive RSS dispersion for aerodynamic heating indicator
- (3) - negative RSS dispersion for aerodynamic heating indicator (value is positive in sign)
- (4) - positive RSS dispersion for angle of attack
- (5) - negative RSS dispersion for angle of attack
- (6) - positive RSS dispersion for sideslip angle
- (7) - negative RSS dispersion for sideslip angle
- (8) to (12) - (not used)

Table E-1. Interpretation of IVAR Variables

0000	VAR contains data
9999	Terminal point has been reached for this trajectory
---0	Positive dispersion (the parameter is perturbed in a positive sense)
---1	Negative dispersion (the parameter is perturbed in a negative sense)
0010	The following data are the nominal trajectory
1---	The following data are related to propulsion dispersion parameters
101_	SRB with action time
102_	SRM terminal thrust mismatch
103_	SRM specific impulse
104_	SRM steady state thrust mismatch
105_	SRM steady state specific impulse mismatch
106_	SRM thrust misalignment (pitch)
107_	SRM thrust misalignment (yaw)
108_	SSMR vacuum thrust
109_	SSME vacuum specific impulse
110_	SSME thrust misalignment (pitch)
111_	SSME thrust misalignment (yaw)
2---	The following data are related to aero/environment dispersion parameters
201_	Axial force coefficient
202_	Normal force coefficient
203_	Pitch moment coefficient
204_	Side force coefficient

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Table E-1. Interpretation of IVAR Variables (Continued)

205_	Yaw moment coefficient
206_	Roll moment coefficient
207_	Base force
208_	Atmosphere (hot 2080, cold 2081)
3_--	The following data are related to mass properties dispersion parameters
301_	External tank propellant weight
302_	SRB propellant weight
303_	SRB inert weight
304_	Second stage inert weight
305_	First stage longitudinal center of gravity
306_	First stage lateral center of gravity
307_	First stage normal center of gravity
308_	Second stage longitudinal center of gravity
309_	Second stage normal center of gravity
4_--	The following data are related to GN&C dispersion parameters
401_	Accelerator error (pitch)
402_	Accelerator error (yaw)
403_	Rate gyro (pitch)
404_	Rate gyro (yaw)
405_	Inertial measurement unit (IMU) platform error (pitch)
406_	IMU platform error (yaw)
407_	IMU platform error (roll)
408_	MECO targeting

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Table E-1. Interpretation of IVAR variables (Concluded)

5__	The following data are related to the composite and wind related trajectories
501_	Composite
502_	Composite plus head wind
503_	Composite plus right quartering head wind
504_	Composite plus right cross wind
505_	Composite plus right quartering tail wind
506_	Composite plus tail wind
507_	Composite plus left quartering tail wind
508_	Composite plus left cross wind
509_	Composite plus left quartering head wind
5100	The following data are time ordered RSS values for positive and negative dispersions of aerodynamic heating indicator, angle of attack, and sideslip angle

(Reverse Blank)

APPENDIX F—MISSION 1 DISPERSION ANALYSIS TABULAR DATA

[illegible]

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TIME	NOV VAL	POPULATION											AMI	POS
		1	2	3	4	5	6	7	8	9	10	11		
50.0	1.6	-7	-0	1	2	-0	-0	-0	-0	-0	-0	-0	-7	2.1
51.0	1.7	-4	-0	1	2	-0	-0	-0	-0	-0	-0	-0	-8	2.3
52.0	1.8	-4	-0	1	2	-0	-0	-0	-0	-0	-0	-0	-8	2.5
53.0	1.9	-4	-0	1	2	-0	-0	-0	-0	-0	-0	-0	-9	2.6
54.0	2.1	-4	-0	1	2	-0	-0	-0	-0	-0	-0	-0	-9	2.8
55.0	2.2	-5	-0	1	2	-0	-0	-0	-0	-0	-0	-0	1.0	3.0
56.0	2.4	-5	-0	1	2	-0	-0	-0	-0	-0	-0	-0	1.0	3.2
57.0	2.5	-5	-0	1	2	-0	-0	-0	-0	-0	-0	-0	1.0	3.4
58.0	2.7	-5	-0	1	2	-0	-0	-0	-0	-0	-0	-0	1.1	3.6
59.0	2.8	-6	-0	1	3	-0	-0	-0	-0	-0	-0	-0	1.1	3.8
60.0	3.0	-6	-0	1	3	-0	-0	-0	-0	-0	-0	-0	1.1	4.0
61.0	3.2	-6	-0	1	3	-0	-0	-0	-0	-0	-0	-0	1.1	4.3
62.0	3.4	-7	-0	1	3	-0	-0	-0	-0	-0	-0	-0	1.2	4.6
63.0	3.6	-7	-0	1	3	-0	-0	-0	-0	-0	-0	-0	1.2	4.8
64.0	3.8	-8	-0	1	4	-0	-0	-0	-0	-0	-0	-0	1.3	5.1
65.0	4.0	-8	-0	1	4	-0	-0	-0	-0	-0	-0	-0	1.3	5.3
66.0	4.3	-9	-0	1	4	-0	-0	-0	-0	-0	-0	-0	1.4	5.5
67.0	4.6	-10	-0	1	5	-0	-0	-0	-0	-0	-0	-0	1.4	5.8
68.0	4.9	-11	-0	1	5	-0	-0	-0	-0	-0	-0	-0	1.7	6.2
69.0	5.2	-12	-0	2	5	-0	-0	-0	-0	-0	-0	-0	1.5	6.7
70.0	5.6	-13	-0	2	6	-0	-0	-0	-0	-0	-0	-0	1.6	7.2
71.0	6.0	-14	-0	2	6	-0	-0	-0	-0	-0	-0	-0	1.7	7.7
72.0	6.4	-16	-0	2	7	-0	-0	-0	-0	-0	-0	-0	1.8	8.3
73.0	6.9	-17	-0	2	8	-0	-0	-0	-0	-0	-0	-0	2.0	9.0
74.0	7.5	-19	-0	2	8	-0	-0	-0	-0	-0	-0	-0	2.2	9.7
75.0	8.1	-21	-0	3	9	-0	-0	-0	-0	-0	-0	-0	3.1	10.6
76.0	8.8	-23	-0	3	9	-0	-0	-0	-0	-0	-0	-0	2.6	11.5
77.0	9.6	-26	-0	4	10	-0	-0	-0	-0	-0	-0	-0	2.8	12.5
78.0	10.4	-28	-0	4	12	-0	-0	-0	-0	-0	-0	-0	3.1	13.6
79.0	11.4	-31	-0	4	13	-0	-0	-0	-0	-0	-0	-0	3.3	14.8
80.0	12.4	-34	-0	4	14	-0	-0	-0	-0	-0	-0	-0	3.7	16.2
81.0	13.5	-38	-0	4	15	-0	-0	-0	-0	-0	-0	-0	4.0	17.6
82.0	14.7	-41	-0	5	16	-0	-0	-0	-0	-0	-0	-0	4.4	19.1
83.0	16.0	-45	-0	5	17	-0	-0	-0	-0	-0	-0	-0	4.8	20.8
84.0	17.4	-49	-0	6	19	-0	-0	-0	-0	-0	-0	-0	5.2	22.5
85.0	18.9	-52	-0	6	20	-0	-0	-0	-0	-0	-0	-0	5.6	24.4
86.0	20.5	-56	-0	6	21	-0	-0	-0	-0	-0	-0	-0	6.9	26.3
87.0	22.2	-60	-0	7	22	-0	-0	-0	-0	-0	-0	-0	7.4	28.3
88.0	24.0	-64	-0	7	23	-0	-0	-0	-0	-0	-0	-0	7.8	30.5
89.0	25.9	-68	-0	7	24	-0	-0	-0	-0	-0	-0	-0	8.2	32.7
90.0	27.9	-72	-0	8	26	-0	-0	-0	-0	-0	-0	-0	9.1	35.0
91.0	29.9	-76	-0	8	27	-0	-0	-0	-0	-0	-0	-0	9.6	37.4
92.0	32.1	-80	-0	8	28	-0	-0	-0	-0	-0	-0	-0	10.0	39.9
93.0	34.3	-84	-0	8	29	-0	-0	-0	-0	-0	-0	-0	10.5	42.5
94.0	36.6	-88	-0	9	30	-0	-0	-0	-0	-0	-0	-0	10.9	45.2
95.0	38.9	-92	-0	9	31	-0	-0	-0	-0	-0	-0	-0	11.4	47.9
96.0	41.4	-96	-0	9	32	-0	-0	-0	-0	-0	-0	-0	11.8	50.7
97.0	43.9	-100	-0	10	33	-0	-0	-0	-0	-0	-0	-0	12.2	53.6
98.0	46.5	-104	-0	10	34	-0	-0	-0	-0	-0	-0	-0	12.7	56.6
99.0	49.1	-108	-0	10	34	-0	-0	-0	-0	-0	-0	-0	13.1	59.6
													13.6	62.7

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ORIGINAL PAGE IS
OF POOR QUALITY

PROBILSION

TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11	AH1	POS
100.0	51.8	-10.3	0	1.0	3.5	0	-1	-4	5	-0	-1	-0	12.9	65.8
101.0	54.5	-10.3	0	1.0	3.6	0	-1	-5	5	-0	-1	-0	13.3	69.0
102.0	57.3	-10.6	0	1.0	3.6	0	-1	-5	6	-0	-1	-0	14.9	72.2
103.0	60.1	-10.8	0	1.1	3.7	0	-1	-5	6	-0	-1	-0	15.4	75.5
104.0	63.0	-11.0	0	1.1	3.7	0	-1	-5	6	-1	-2	-0	15.8	78.8
105.0	65.9	-11.1	0	1.1	3.8	0	-1	-5	6	-1	-2	-0	16.3	82.2
106.0	68.8	-11.3	0	1.1	3.8	0	-1	-6	6	-1	-2	-0	16.8	85.6
107.0	71.8	-11.5	0	1.1	3.8	0	-1	-6	6	-1	-2	-0	17.3	89.1
108.0	74.8	-11.6	0	1.1	3.9	0	-1	-6	6	-1	-2	-0	17.8	92.6
109.0	77.9	-11.8	0	1.2	3.9	0	-1	-7	7	-1	-3	-1	18.3	96.2
110.0	81.0	-11.9	0	1.2	3.9	0	-1	-7	7	-1	-3	-1	18.8	99.7
111.0	84.1	-12.0	0	1.2	3.9	0	-1	-7	7	-1	-3	-1	19.2	103.3
112.0	87.2	-12.1	0	1.2	3.9	0	-1	-7	7	-1	-3	-1	19.7	106.9
113.0	90.4	-12.2	0	1.2	3.9	0	-1	-7	7	-1	-3	-1	20.1	110.4
114.0	93.5	-12.3	0	1.2	3.9	0	-1	-7	7	-1	-3	-1	20.4	114.0
115.0	96.7	-12.3	0	1.2	3.9	0	-1	-7	7	-1	-3	-1	20.8	117.5
116.0	99.8	-12.3	0	1.2	3.9	0	-1	-7	7	-1	-3	-1	21.1	120.9
117.0	102.8	-12.2	0	1.2	3.9	0	-1	-7	7	-1	-3	-1	21.5	124.3
118.0	105.8	-11.9	0	1.2	3.9	0	-1	-7	7	-1	-3	-1	21.8	127.6
119.0	108.7	-11.6	0	1.2	3.9	0	-1	-7	7	-1	-3	-1	22.2	130.9
120.0	111.5	-11.3	0	1.2	3.8	0	-1	-7	7	-1	-3	-1	22.6	134.1
121.0	114.2	-10.9	0	1.2	3.8	0	-1	-7	7	-1	-3	-1	23.0	137.2
122.0	116.9	-10.4	0	1.2	3.8	0	-1	-7	7	-1	-3	-1	23.4	140.3
123.0	119.4	-10.0	0	1.2	3.8	0	-1	-7	7	-1	-3	-1	23.7	143.3
124.0	121.9	-9.6	0	1.2	3.7	0	-1	-7	7	-1	-3	-1	24.0	146.2
125.0	124.3	-9.1	0	1.2	3.7	0	-1	-7	7	-1	-3	-1	24.3	149.0
126.0	126.6	-8.7	0	1.2	3.7	0	-1	-7	7	-1	-3	-1	24.6	151.8
127.0	128.8	-8.2	0	1.2	3.7	0	-1	-7	7	-1	-3	-1	24.9	154.5
128.0	130.9	-7.8	0	1.2	3.7	0	-1	-7	7	-1	-3	-1	25.2	157.1
129.0	133.0	-7.4	0	1.2	3.7	0	-1	-7	7	-1	-3	-1	25.5	159.6
130.0	135.0	-7.0	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	25.8	162.1
131.0	137.0	-6.6	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	26.1	164.6
132.0	138.9	-6.2	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	26.4	167.0
133.0	140.8	-5.8	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	26.7	169.3
134.0	142.6	-5.6	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	27.0	171.6
135.0	144.4	-5.3	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	27.3	173.8
136.0	146.2	-5.0	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	27.6	176.0
137.0	148.0	-4.7	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	27.9	178.2
138.0	149.8	-4.4	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	28.2	180.4
139.0	151.6	-4.1	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	28.5	182.6
140.0	153.4	-3.8	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	28.8	184.8
141.0	155.2	-3.5	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	29.1	187.0
142.0	157.0	-3.2	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	29.4	189.2
143.0	158.8	-2.9	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	29.7	191.4
144.0	160.6	-2.6	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	30.0	193.6
145.0	162.4	-2.3	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	30.3	195.8
146.0	164.2	-2.0	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	30.6	198.0
147.0	166.0	-1.7	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	30.9	200.2
148.0	167.8	-1.4	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	31.2	202.4
149.0	169.6	-1.1	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	31.5	204.6
150.0	171.4	-0.8	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	31.8	206.8
151.0	173.2	-0.5	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	32.1	209.0
152.0	175.0	-0.2	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	32.4	211.2
153.0	176.8	0.1	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	32.7	213.4
154.0	178.6	0.4	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	33.0	215.6
155.0	180.4	0.7	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	33.3	217.8
156.0	182.2	1.0	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	33.6	220.0
157.0	184.0	1.3	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	33.9	222.2
158.0	185.8	1.6	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	34.2	224.4
159.0	187.6	1.9	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	34.5	226.6
160.0	189.4	2.2	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	34.8	228.8
161.0	191.2	2.5	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	35.1	231.0
162.0	193.0	2.8	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	35.4	233.2
163.0	194.8	3.1	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	35.7	235.4
164.0	196.6	3.4	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	36.0	237.6
165.0	198.4	3.7	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	36.3	239.8
166.0	200.2	4.0	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	36.6	242.0
167.0	202.0	4.3	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	36.9	244.2
168.0	203.8	4.6	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	37.2	246.4
169.0	205.6	4.9	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	37.5	248.6
170.0	207.4	5.2	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	37.8	250.8
171.0	209.2	5.5	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	38.1	253.0
172.0	211.0	5.8	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	38.4	255.2
173.0	212.8	6.1	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	38.7	257.4
174.0	214.6	6.4	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	39.0	259.6
175.0	216.4	6.7	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	39.3	261.8
176.0	218.2	7.0	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	39.6	264.0
177.0	220.0	7.3	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	39.9	266.2
178.0	221.8	7.6	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	40.2	268.4
179.0	223.6	7.9	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	40.5	270.6
180.0	225.4	8.2	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	40.8	272.8
181.0	227.2	8.5	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	41.1	275.0
182.0	229.0	8.8	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	41.4	277.2
183.0	230.8	9.1	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	41.7	279.4
184.0	232.6	9.4	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	42.0	281.6
185.0	234.4	9.7	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	42.3	283.8
186.0	236.2	10.0	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	42.6	286.0
187.0	238.0	10.3	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	42.9	288.2
188.0	239.8	10.6	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	43.2	290.4
189.0	241.6	10.9	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	43.5	292.6
190.0	243.4	11.2	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	43.8	294.8
191.0	245.2	11.5	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	44.1	297.0
192.0	247.0	11.8	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	44.4	299.2
193.0	248.8	12.1	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	44.7	301.4
194.0	250.6	12.4	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	45.0	303.6
195.0	252.4	12.7	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	45.3	305.8
196.0	254.2	13.0	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	45.6	308.0
197.0	256.0	13.3	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	45.9	310.2
198.0	257.8	13.6	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	46.2	312.4
199.0	259.6	13.9	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	46.5	314.6
200.0	261.4	14.2	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	46.8	316.8
201.0	263.2	14.5	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	47.1	319.0
202.0	265.0	14.8	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	47.4	321.2
203.0	266.8	15.1	0	1.2	3.6	0	-1	-7	7	-1	-3	-1	47.7	323.4
204.0	268.6	15.4	0	1.2	3.6	0	-1	-7	7	-1	-3			

ORIGINAL PAGE IS
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TIME	NOM	VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
100.0	51.8	11.2	-3.2	-1.2	2	0	-5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ORIGINAL PAGE IS
OF POOR QUALITY

PROBATION

TIME	NOV VAL	1	2	3	4	5	6	7	8	9	10	11	AHT	POS
295.0	275.9	12.5	3.1	1.1	1.2	0.0	2.4	-2.5	1.3	-3	-6.2	-0	70.6	165.6
295.0	277.2	12.6	3.1	0.0	1.1	0.0	2.5	-2.5	1.4	-3	-6.3	-0	71.4	166.3
305.0	278.4	12.8	3.1	0.0	1.1	0.0	2.5	-2.5	1.4	-4	-6.4	-0	72.2	167.1
315.0	279.7	13.0	3.1	0.0	0.0	0.0	2.6	-2.6	1.4	-4	-6.5	-0	72.9	167.8
325.0	281.0	13.2	3.1	0.0	0.0	0.0	2.6	-2.6	1.4	-4	-6.6	-0	73.6	168.6
335.0	282.4	13.4	3.1	0.0	0.0	0.0	2.7	-2.6	1.5	-4	-6.7	-0	74.3	169.5
345.0	283.8	13.6	3.2	0.0	0.0	0.0	2.8	-2.6	1.5	-4	-6.8	-0	74.9	170.3
355.0	285.4	13.8	3.2	0.0	0.0	0.0	2.8	-2.6	1.6	-4	-6.9	-0	75.6	171.3
365.0	287.0	14.0	3.2	0.0	0.0	0.0	2.9	-2.7	1.6	-4	-7.0	-0	76.4	172.4
375.0	288.9	14.3	3.2	0.0	0.0	0.0	3.0	-2.7	1.7	-5	-7.2	-0	77.2	173.6
385.0	290.9	14.7	3.3	0.0	0.0	0.0	3.0	-2.7	1.8	-5	-7.3	-0	78.0	174.9
395.0	293.1	15.1	3.3	0.0	0.0	0.0	3.1	-2.8	1.9	-5	-7.4	-0	78.9	176.5
405.0	295.9	15.5	3.4	0.0	0.0	0.0	3.2	-2.8	2.0	-5	-7.6	-0	79.8	178.3
415.0	298.9	15.9	3.4	0.0	0.0	0.0	3.3	-2.9	2.2	-6	-7.8	-0	80.8	180.4
425.0	301.1	16.3	3.5	0.0	0.0	0.0	3.4	-2.9	2.5	-6	-7.9	-0	81.9	182.9
435.0	303.4	16.7	3.5	0.0	0.0	0.0	3.5	-3.0	2.7	-7	-8.1	-0	83.0	186.0
445.0	305.9	17.1	3.6	0.0	0.0	0.0	3.6	-3.0	3.1	-8	-8.3	-0	84.3	189.6
455.0	308.7	17.5	3.7	0.0	0.0	0.0	3.7	-3.1	3.5	-9	-8.5	-0	85.7	193.9
465.0	311.1	17.9	3.7	0.0	0.0	0.0	3.8	-3.1	4.0	-10	-8.8	-0	87.3	199.1
475.0	313.4	18.3	3.9	0.0	0.0	0.0	4.0	-3.2	4.7	-11	-9.0	-0	88.9	205.4
485.0	316.0	18.7	4.0	0.0	0.0	0.0	4.2	-3.2	5.6	-13	-9.3	-0	90.6	213.0
495.0	318.7	19.1	4.2	0.0	0.0	0.0	4.4	-3.3	6.6	-16	-9.6	-0	92.4	222.7
505.0	321.6	19.5	4.4	0.0	0.0	0.0	4.6	-3.4	7.8	-18	-9.9	-0	94.3	233.3
515.0	324.8	19.9	4.7	0.0	0.0	0.0	4.8	-3.5	9.3	-22	-10.2	-0	96.1	246.8
525.0	328.7	20.3	5.0	0.0	0.0	0.0	4.9	-3.6	11.0	-26	-10.5	-0	97.8	263.0
535.0	332.6	20.7	5.4	0.0	0.0	0.0	4.6	-3.6	13.0	-30	-10.7	-0	99.2	282.2
545.0	336.6	21.1	5.8	0.0	0.0	0.0	4.7	-3.6	15.0	-35	-10.9	-0	100.4	304.8
555.0	340.8	21.5	6.2	0.0	0.0	0.0	4.7	-3.7	17.2	-41	-11.0	-0	101.5	330.8
565.0	345.2	21.9	6.6	0.0	0.0	0.0	4.7	-3.7	19.2	-47	-11.1	-0	102.2	360.1

F-9

TIME	NO. VAL	1	2	3	4	5	6	7	8	9	10	11	AMT	NEG
285.0	225.9	-10.6	3.1	-4	-6	-1.1	-1.5	.0	-1.4	.4	6.4	.0	70.6	60.3
295.0	227.2	-10.8	3.1	-3	-7	-1.0	-1.6	.0	-1.5	.4	6.6	.0	71.4	60.8
305.0	228.4	-10.9	3.1	-3	-7	-1.0	-1.6	.0	-1.5	.4	6.7	.0	72.2	61.4
315.0	229.7	-11.1	3.2	-3	-8	-1.0	-1.7	.0	-1.5	.4	6.8	.0	73.0	61.9
325.0	231.0	-11.3	3.2	-3	-9	-1.0	-1.7	.0	-1.5	.4	6.9	.0	73.6	62.4
335.0	232.4	-11.4	3.2	-3	-9	-1.0	-1.8	.0	-1.6	.4	7.0	.0	74.3	62.9
345.0	233.8	-11.6	3.2	-3	-10	-9	-1.8	.0	-1.6	.4	7.1	.0	74.9	63.5
355.0	235.4	-11.8	3.2	-2	-10	-9	-1.9	.0	-1.7	.4	7.2	.0	75.6	64.1
365.0	237.0	-12.0	3.3	-2	-11	-9	-1.9	.0	-1.7	.5	7.3	.0	76.4	64.7
375.0	238.9	-12.1	3.3	-2	-12	-9	-2.0	.0	-1.8	.5	7.4	.0	77.2	65.3
385.0	240.9	-12.3	3.3	-2	-13	-9	-2.0	.0	-1.9	.5	7.5	.0	78.0	66.0
395.0	243.3	-12.5	3.3	-2	-14	-9	-2.1	.0	-2.0	.5	7.7	.0	78.9	66.8
405.0	245.9	-12.8	3.4	-3	-14	-8	-2.1	.0	-2.1	.6	7.9	.0	79.8	67.6
415.0	248.9	-13.0	3.4	-3	-14	-8	-2.2	.0	-2.3	.6	8.0	.0	80.8	68.5
425.0	252.4	-13.2	3.5	-3	-15	-8	-2.3	.0	-2.5	.7	8.2	.0	81.9	69.4
435.0	256.4	-13.4	3.5	-3	-15	-8	-2.4	.0	-2.7	.7	8.4	.0	83.0	70.4
445.0	261.1	-13.6	3.6	-3	-16	-8	-2.5	.0	-3.0	.8	8.6	.0	84.3	71.5
455.0	266.6	-13.8	3.7	-3	-16	-8	-2.6	.0	-3.4	.9	8.8	.0	85.7	72.6
465.0	273.1	-14.0	3.8	-3	-17	-8	-2.7	.0	-3.9	1.0	9.1	.0	87.3	73.9
475.0	281.7	-14.2	3.9	-3	-17	-8	-2.8	.0	-4.5	1.2	9.4	.0	88.9	75.3
485.0	289.9	-14.4	4.1	-2	-17	-9	-2.9	.0	-5.2	1.4	9.7	.0	90.6	76.9
495.0	301.7	-14.6	4.3	-2	-17	-10	-3.0	.0	-6.2	1.6	10.0	.0	92.4	78.5
505.0	313.6	-14.7	4.5	-3	-16	-11	-3.1	.0	-7.3	1.9	10.3	.0	94.3	80.2
515.0	326.4	-14.8	4.8	-4	-14	-12	-3.2	.0	-8.6	2.2	10.7	.0	96.1	82.0
525.0	346.7	-14.7	5.1	-6	-12	-13	-3.3	.0	-10.2	2.6	11.0	.0	97.8	83.7
535.0	367.6	-14.6	5.4	-7	-9	-15	-3.3	.0	-12.0	3.1	11.3	.0	99.2	85.4
545.0	391.6	-14.3	5.8	-10	-5	-18	-3.4	.0	-13.9	3.6	11.5	.0	100.9	86.8
555.0	418.8	-13.9	6.3	-12	-3	-20	-3.4	.0	-16.0	4.2	11.7	.0	101.5	88.0
565.0	449.2	-13.5	6.7	-15	-4	-23	-3.4	.0	-18.1	4.8	11.8	.0	102.2	89.1

[illegible]

ORIGINAL PAGE IS
OF POOR QUALITY

AERO/ENVIRON

TIME	NO. 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TIME	NOH VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
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CRITICAL
OF

HERO/ENVIRON

TIME	MON	TUE	WED	THUR	FRI	SAT	SUN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
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ORIGINAL PAGE IS
OF POOR QUALITY

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F-19

MASS PROP													AHI	FOS
TIME	NOM VAL	1	2	3	4	5	6	7	8	9				
50.0	1.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.6	.7	2.1	.8
51.0	1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.6	.8	2.3	.9
52.0	1.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	.8	2.5	1.0
53.0	1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	.9	2.6	1.1
54.0	2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	.9	2.8	1.2
55.0	2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.8	1.0	3.0	1.3
56.0	2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.8	1.0	3.2	1.4
57.0	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.9	1.1	3.4	1.5
58.0	2.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.9	1.1	3.6	1.6
59.0	2.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	1.1	3.8	1.7
60.0	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	1.1	4.0	1.9
61.0	3.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.2	4.3	2.0
62.0	3.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	1.2	4.6	2.2
63.0	3.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.2	4.8	2.3
64.0	3.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.4	1.3	5.1	2.5
65.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.4	1.3	5.5	2.7
66.0	4.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.4	5.8	2.9
67.0	4.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.7	1.4	6.2	3.1
68.0	4.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.8	1.5	6.7	3.3
69.0	5.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	1.6	7.2	3.6
70.0	5.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	1.7	7.7	3.8
71.0	6.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.3	1.8	8.3	4.1
72.0	6.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.5	2.0	9.0	4.4
73.0	6.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.6	2.2	9.7	4.8
74.0	7.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	3.1	2.3	10.6	5.2
75.0	8.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	3.3	2.6	11.5	5.6
76.0	8.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	3.7	2.8	12.5	6.0
77.0	9.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	4.0	3.1	13.6	6.5
78.0	10.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	4.4	3.3	14.8	7.1
79.0	11.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	4.8	3.7	16.2	7.7
80.0	12.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	5.2	4.0	17.6	8.4
81.0	13.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	5.6	4.4	19.1	9.1
82.0	14.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	6.1	4.8	20.8	9.9
83.0	16.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	6.5	5.2	22.5	10.8
84.0	17.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	6.9	5.6	24.4	11.8
85.0	18.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	7.4	6.0	26.3	12.9
86.0	20.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	7.8	6.5	28.3	14.1
87.0	22.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	8.2	6.9	30.5	15.3
88.0	24.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	8.7	7.3	32.7	16.7
89.0	25.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	9.1	7.8	35.0	18.1
90.0	27.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	9.6	8.2	37.4	19.6
91.0	29.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	10.0	8.7	39.9	21.2
92.0	32.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	10.5	9.1	42.5	22.9
93.0	34.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	10.9	9.6	45.2	24.7
94.0	36.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	11.4	10.1	47.9	26.5
95.0	38.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	11.8	10.5	50.7	28.4
96.0	41.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	12.2	11.0	53.6	30.4
97.0	43.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	12.7	11.5	56.6	32.4
98.0	46.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	13.1	12.0	59.6	34.5
99.0	49.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	13.6	12.4	62.7	36.7

ORIGINAL
OF FOUR COPIES

ORIGINAL TABLE
OF POOR QUALITY

TIME	NO. VAL	MASS PROP										RHI	NEG
		1	2	3	4	5	6	7	8	9	10		
50.0	1.6	0	0	0	0	0	0	0	0	0	0	0	0
51.0	1.7	0	0	0	0	0	0	0	0	0	0	0	0
52.0	1.8	0	0	0	0	0	0	0	0	0	0	0	0
53.0	1.9	0	0	0	0	0	0	0	0	0	0	0	0
54.0	2.1	0	0	0	0	0	0	0	0	0	0	0	0
55.0	2.2	0	0	0	0	0	0	0	0	0	0	0	0
56.0	2.4	0	0	0	0	0	0	0	0	0	0	0	0
57.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0
58.0	2.7	0	0	0	0	0	0	0	0	0	0	0	0
59.0	2.8	0	0	0	0	0	0	0	0	0	0	0	0
60.0	3.0	0	0	0	0	0	0	0	0	0	0	0	0
61.0	3.2	0	0	0	0	0	0	0	0	0	0	0	0
62.0	3.4	0	0	0	0	0	0	0	0	0	0	0	0
63.0	3.6	0	0	0	0	0	0	0	0	0	0	0	0
64.0	3.8	0	0	0	0	0	0	0	0	0	0	0	0
65.0	4.0	0	0	0	0	0	0	0	0	0	0	0	0
66.0	4.3	0	0	0	0	0	0	0	0	0	0	0	0
67.0	4.6	0	0	0	0	0	0	0	0	0	0	0	0
68.0	4.9	0	0	0	0	0	0	0	0	0	0	0	0
69.0	5.2	0	0	0	0	0	0	0	0	0	0	0	0
70.0	5.6	0	0	0	0	0	0	0	0	0	0	0	0
71.0	6.0	0	0	0	0	0	0	0	0	0	0	0	0
72.0	6.4	0	0	0	0	0	0	0	0	0	0	0	0
73.0	6.9	0	0	0	0	0	0	0	0	0	0	0	0
74.0	7.5	0	0	0	0	0	0	0	0	0	0	0	0
75.0	8.1	0	0	0	0	0	0	0	0	0	0	0	0
76.0	8.8	0	0	0	0	0	0	0	0	0	0	0	0
77.0	9.1	0	0	0	0	0	0	0	0	0	0	0	0
78.0	10.4	0	0	0	0	0	0	0	0	0	0	0	0
79.0	11.9	0	0	0	0	0	0	0	0	0	0	0	0
80.0	12.4	0	0	0	0	0	0	0	0	0	0	0	0
81.0	13.5	0	0	0	0	0	0	0	0	0	0	0	0
82.0	14.7	0	0	0	0	0	0	0	0	0	0	0	0
83.0	16.0	0	0	0	0	0	0	0	0	0	0	0	0
84.0	17.4	0	0	0	0	0	0	0	0	0	0	0	0
85.0	18.0	0	0	0	0	0	0	0	0	0	0	0	0
86.0	20.5	0	0	0	0	0	0	0	0	0	0	0	0
87.0	22.7	0	0	0	0	0	0	0	0	0	0	0	0
88.0	24.0	0	0	0	0	0	0	0	0	0	0	0	0
89.0	25.9	0	0	0	0	0	0	0	0	0	0	0	0
90.0	27.9	0	0	0	0	0	0	0	0	0	0	0	0
91.0	29.9	0	0	0	0	0	0	0	0	0	0	0	0
92.0	32.1	0	0	0	0	0	0	0	0	0	0	0	0
93.0	34.3	0	0	0	0	0	0	0	0	0	0	0	0
94.0	36.6	0	0	0	0	0	0	0	0	0	0	0	0
95.0	38.0	0	0	0	0	0	0	0	0	0	0	0	0
96.0	41.4	0	0	0	0	0	0	0	0	0	0	0	0
97.0	43.9	0	0	0	0	0	0	0	0	0	0	0	0
98.0	46.5	0	0	0	0	0	0	0	0	0	0	0	0
99.0	49.1	0	0	0	0	0	0	0	0	0	0	0	0

MASS PROP										AHI POS									
TIME	NOV VAL	1	2	3	4	5	6	7	8	9									
100.0	51.8	-7	-3	0	0	0	1	0	0	0	14.0	12.9	65.8	36.9					
101.0	54.5	-7	3	0	0	0	1	0	0	0	14.4	13.3	69.0	41.2					
102.0	57.3	-7	4	0	0	0	1	0	0	0	14.9	13.8	72.2	43.5					
103.0	60.1	-8	4	0	0	0	1	0	0	0	15.4	14.2	75.5	45.9					
104.0	63.0	-8	4	0	0	0	1	0	0	0	15.8	14.7	78.8	48.3					
105.0	65.9	-8	4	0	0	0	1	0	0	0	16.3	15.1	82.2	50.7					
106.0	68.8	-8	4	0	0	0	1	0	0	0	16.8	15.6	85.6	53.2					
107.0	71.9	-9	4	0	0	0	1	0	0	0	17.3	16.1	89.1	55.8					
108.0	74.8	-9	4	0	0	0	1	0	0	0	17.8	16.5	92.6	58.3					
109.0	77.9	-9	4	0	0	0	1	0	0	0	18.3	17.0	96.2	60.9					
110.0	81.0	-9	4	0	0	0	1	0	0	0	18.8	17.5	99.7	63.5					
111.0	84.1	-9	5	0	0	0	1	0	0	0	19.2	18.0	103.3	66.1					
112.0	87.2	-1.0	5	0	0	0	1	0	0	0	19.7	18.5	106.9	68.7					
113.0	90.4	-1.0	5	0	0	0	1	0	0	0	20.1	19.0	110.4	71.3					
114.0	93.5	-1.0	5	0	0	0	1	0	0	0	20.4	19.5	114.0	74.0					
115.0	96.7	-1.0	5	0	0	0	1	0	0	0	20.8	20.0	117.5	76.7					
116.0	99.8	-1.0	5	0	0	0	1	0	0	0	21.1	20.5	120.9	79.3					
117.0	102.8	-1.1	5	0	0	0	1	0	0	0	21.5	20.9	124.3	82.0					
118.0	105.8	-1.1	5	0	0	0	1	0	0	0	21.8	21.2	127.6	84.6					
119.0	106.7	-1.1	5	0	0	0	1	0	0	0	22.2	21.6	130.9	87.1					
120.0	111.5	-1.1	5	0	0	0	1	0	0	0	22.6	21.9	134.1	89.6					
121.0	114.2	-1.1	5	0	0	0	1	0	0	0	23.0	22.2	137.2	92.1					
122.0	116.9	-1.1	6	0	0	0	1	0	0	0	23.4	22.5	140.3	94.4					
123.0	119.4	-1.2	6	0	0	0	1	0	0	0	23.9	22.8	143.3	96.6					
124.0	121.9	-1.2	6	0	0	0	1	0	0	0	24.3	23.1	146.2	98.8					
125.0	124.3	-1.2	6	0	0	0	1	0	0	0	24.8	23.4	149.0	100.9					
126.0	126.6	-1.2	6	0	0	0	1	0	0	0	25.2	23.7	151.8	102.9					
127.0	128.8	-1.2	6	0	0	0	1	0	0	0	25.7	24.0	154.5	104.7					
128.0	130.9	-1.2	6	0	0	0	1	0	0	0	26.1	24.4	157.1	106.6					
129.0	133.0	-1.2	6	0	0	0	1	0	0	0	26.6	24.7	159.6	108.3					
130.0	135.0	-1.2	6	0	0	0	1	0	0	0	27.1	25.1	162.1	110.0					
131.0	137.0	-1.3	6	0	0	0	1	0	0	0	27.6	25.4	164.6	111.6					
132.0	138.5	-1.3	6	0	0	0	1	0	0	0	28.1	25.8	167.0	113.1					
133.0	140.8	-1.3	6	0	0	0	1	0	0	0	28.5	26.2	169.3	114.6					
134.0	142.6	-1.3	6	0	0	0	1	0	0	0	29.0	26.6	171.6	116.0					
135.0	144.4	-1.3	6	0	0	0	1	0	0	0	29.4	27.0	173.8	117.4					
136.0	146.9	-1.4	7	0	0	0	2	0	0	0	30.1	27.7	175.9	118.9					
137.0	149.3	-1.4	7	0	0	0	2	0	0	0	30.5	28.1	177.9	120.3					
138.0	151.3	-1.4	8	0	0	0	2	0	0	0	30.9	28.5	179.9	121.7					
139.0	153.3	-1.4	8	0	0	0	2	0	0	0	31.3	28.9	181.9	123.1					
140.0	155.3	-1.4	8	0	0	0	2	0	0	0	31.7	29.3	183.9	124.5					
141.0	157.3	-1.4	8	0	0	0	2	0	0	0	32.1	29.7	185.9	125.9					
142.0	159.3	-1.4	8	0	0	0	2	0	0	0	32.5	30.1	187.9	127.3					
143.0	161.3	-1.4	8	0	0	0	2	0	0	0	32.9	30.5	189.9	128.7					
144.0	163.3	-1.4	8	0	0	0	2	0	0	0	33.3	30.9	191.9	130.1					
145.0	165.3	-1.4	8	0	0	0	2	0	0	0	33.7	31.3	193.9	131.5					
146.0	167.3	-1.4	8	0	0	0	2	0	0	0	34.1	31.7	195.9	132.9					
147.0	169.3	-1.4	8	0	0	0	2	0	0	0	34.5	32.1	197.9	134.3					
148.0	171.3	-1.4	8	0	0	0	2	0	0	0	34.9	32.5	199.9	135.7					
149.0	173.3	-1.4	8	0	0	0	2	0	0	0	35.3	32.9	201.9	137.1					
150.0	175.3	-1.4	8	0	0	0	2	0	0	0	35.7	33.3	203.9	138.5					
151.0	177.3	-1.4	8	0	0	0	2	0	0	0	36.1	33.7	205.9	139.9					
152.0	179.3	-1.4	8	0	0	0	2	0	0	0	36.5	34.1	207.9	141.3					
153.0	181.3	-1.4	8	0	0	0	2	0	0	0	36.9	34.5	209.9	142.7					
154.0	183.3	-1.4	8	0	0	0	2	0	0	0	37.3	34.9	211.9	144.1					
155.0	185.3	-1.4	8	0	0	0	2	0	0	0	37.7	35.3	213.9	145.5					
156.0	187.3	-1.4	8	0	0	0	2	0	0	0	38.1	35.7	215.9	146.9					
157.0	189.3	-1.4	8	0	0	0	2	0	0	0	38.5	36.1	217.9	148.3					
158.0	191.3	-1.4	8	0	0	0	2	0	0	0	38.9	36.5	219.9	149.7					
159.0	193.3	-1.4	8	0	0	0	2	0	0	0	39.3	36.9	221.9	151.1					
160.0	195.3	-1.4	8	0	0	0	2	0	0	0	39.7	37.3	223.9	152.5					
161.0	197.3	-1.4	8	0	0	0	2	0	0	0	40.1	37.7	225.9	153.9					
162.0	199.3	-1.4	8	0	0	0	2	0	0	0	40.5	38.1	227.9	155.3					
163.0	201.3	-1.4	8	0	0	0	2	0	0	0	40.9	38.5	229.9	156.7					
164.0	203.3	-1.4	8	0	0	0	2	0	0	0	41.3	38.9	231.9	158.1					
165.0	205.3	-1.4	8	0	0	0	2	0	0	0	41.7	39.3	233.9	159.5					
166.0	207.3	-1.4	8	0	0	0	2	0	0	0	42.1	39.7	235.9	160.9					
167.0	209.3	-1.4	8	0	0	0	2	0	0	0	42.5	40.1	237.9	162.3					
168.0	211.3	-1.4	8	0	0	0	2	0	0	0	42.9	40.5	239.9	163.7					
169.0	213.3	-1.4	8	0	0	0	2	0	0	0	43.3	40.9	241.9	165.1					
170.0	215.3	-1.4	8	0	0	0	2	0	0	0	43.7	41.3	243.9	166.5					
171.0	217.3	-1.4	8	0	0	0	2	0	0	0	44.1	41.7	245.9	167.9					
172.0	219.3	-1.4	8	0	0	0	2	0	0	0	44.5	42.1	247.9	169.3					
173.0	221.3	-1.4	8	0	0	0	2	0	0	0	44.9	42.5	249.9	170.7					
174.0	223.3	-1.4	8	0	0	0	2	0	0	0	45.3	42.9	251.9	172.1					
175.0	225.3	-1.4	8	0	0	0	2	0	0	0	45.7	43.3	253.9	173.5					
176.0	227.3	-1.4	8	0	0	0	2	0	0	0	46.1	43.7	255.9	174.9					
177.0	229.3	-1.4	8	0	0	0	2	0	0	0	46.5	44.1	257.9	176.3					
178.0	231.3	-1.4	8	0	0	0	2	0	0	0	46.9	44.5	259.9	177.7					
179.0	233.3	-1.4	8	0	0	0	2	0	0	0	47.3	44.9	261.9	179.1					
180.0	235.3	-1.4	8	0	0	0	2	0	0	0	47.7	45.3	263.9	180.5					
181.0	237.3	-1.4	8	0	0	0	2	0	0	0	48.1	45.7	265.9	181.9					
182.0	239.3	-1.4	8	0	0	0	2	0	0	0	48.5	46.1	267.9	183.3					
183.0	241.3	-1.4	8	0	0	0	2	0	0	0	48.9	46.5	269.9	184.7					
184.0	243.3	-1.4	8	0	0	0	2	0	0	0	49.3	46.9	271.9	186.1					
185.0	245.3	-1.4	8	0	0	0	2	0	0	0	49.7	47.3	273.9	187.5					
186.0	247.3	-1.4	8	0	0	0	2	0	0	0	50.1	47.7	275.9	188.9					
187.0	249.3	-1.4	8	0</															

ORIGINAL PAGE IS
OF POOR QUALITY

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ORIGINAL POLYMER
OF POOR QUALITY

MASS PROP										AHI POS									
TIME	NOV VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
285.0	225.9	1.5	.8	.0	.0	.5	.3	-1.0	.0	.0	70.6	60.3	296.4	165.6	166.3	166.3	166.3	166.3	166.3
295.0	227.2	-1.6	.6	.0	.0	.5	.3	-1.0	.0	.0	71.4	60.8	298.6	166.3	166.3	166.3	166.3	166.3	166.3
305.0	228.4	-1.6	.8	.0	.0	.5	.3	-1.0	.0	.0	72.2	61.4	300.6	167.1	167.1	167.1	167.1	167.1	167.1
315.0	229.7	-1.6	.8	.0	.0	.5	.3	-1.0	.0	.0	72.9	61.9	302.6	167.8	167.8	167.8	167.8	167.8	167.8
325.0	231.0	-1.0	.8	.0	.0	.5	.3	-1.0	.0	.0	73.6	62.4	304.6	168.6	168.6	168.6	168.6	168.6	168.6
335.0	232.4	-1.6	.8	.0	.0	.5	.3	-1.0	.0	.0	74.3	62.9	306.6	169.5	169.5	169.5	169.5	169.5	169.5
345.0	233.8	-1.6	.8	.0	.0	.5	.3	-1.0	.0	.0	74.9	63.5	308.8	170.3	170.3	170.3	170.3	170.3	170.3
355.0	235.4	-1.6	.8	.0	.0	.5	.3	-1.0	.0	.0	75.6	64.1	311.0	171.3	171.3	171.3	171.3	171.3	171.3
365.0	237.0	-1.7	.8	.0	.0	.5	.3	-1.0	.0	.0	76.4	64.7	313.4	172.4	172.4	172.4	172.4	172.4	172.4
375.0	238.9	-1.7	.8	.0	.0	.5	.3	-1.0	.0	.0	77.2	65.3	316.0	173.6	173.6	173.6	173.6	173.6	173.6
385.0	240.9	-1.7	.8	.0	.0	.5	.3	-1.0	.0	.0	78.0	66.0	318.9	174.9	174.9	174.9	174.9	174.9	174.9
395.0	243.5	-1.8	.8	.0	.0	.5	.3	-1.0	.0	.0	78.9	66.8	322.1	176.5	176.5	176.5	176.5	176.5	176.5
405.0	245.9	-1.9	.8	.0	.0	.5	.3	-1.0	.0	.0	79.8	67.6	325.7	178.1	178.1	178.1	178.1	178.1	178.1
415.0	248.9	-1.9	.8	.0	.0	.5	.3	-1.0	.0	.0	80.8	68.5	329.7	180.4	180.4	180.4	180.4	180.4	180.4
425.0	252.4	-2.0	.8	.0	.0	.5	.3	-1.0	.0	.0	81.9	69.4	334.2	182.9	182.9	182.9	182.9	182.9	182.9
435.0	256.4	-2.2	.8	.0	.0	.5	.3	-1.0	.0	.0	83.0	70.4	339.4	186.0	186.0	186.0	186.0	186.0	186.0
445.0	261.1	-2.3	.9	.0	.0	.5	.3	-1.0	.0	.0	84.3	71.5	345.4	189.6	189.6	189.6	189.6	189.6	189.6
455.0	266.6	-2.6	.9	.0	.0	.5	.3	-1.0	.0	.0	85.7	72.6	352.3	193.9	193.9	193.9	193.9	193.9	193.9
465.0	273.1	-2.8	.9	.0	.0	.5	.3	-1.0	.0	.0	87.3	73.9	360.3	199.1	199.1	199.1	199.1	199.1	199.1
475.0	280.7	-3.1	.9	.0	.0	.5	.3	-1.0	.0	.0	88.9	75.3	369.6	205.4	205.4	205.4	205.4	205.4	205.4
485.0	289.9	-3.5	1.0	.0	.0	.5	.3	-1.0	.0	.0	90.6	76.9	380.5	213.0	213.0	213.0	213.0	213.0	213.0
495.0	300.7	-4.0	1.0	.0	.0	.5	.3	-1.0	.0	.0	92.4	78.5	393.1	222.2	222.2	222.2	222.2	222.2	222.2
505.0	313.6	-4.4	1.1	.0	.0	.5	.3	-1.0	.0	.0	94.3	80.2	407.8	233.3	233.3	233.3	233.3	233.3	233.3
515.0	328.8	-4.4	1.1	.0	.0	.5	.3	-1.0	.0	.0	96.1	82.0	424.9	248.8	248.8	248.8	248.8	248.8	248.8
525.0	346.7	-6.2	1.2	.0	.0	.5	.3	-1.0	.0	.0	97.8	83.7	444.5	263.0	263.0	263.0	263.0	263.0	263.0
535.0	367.6	-7.2	1.2	.0	.0	.5	.3	-1.0	.0	.0	99.2	85.4	466.8	282.2	282.2	282.2	282.2	282.2	282.2
545.0	391.6	-8.3	1.3	.0	.0	.5	.3	-1.0	.0	.0	100.4	86.8	492.0	304.8	304.8	304.8	304.8	304.8	304.8
555.0	418.8	-9.5	1.4	.0	.0	.5	.3	-1.0	.0	.0	101.5	88.0	520.3	330.8	330.8	330.8	330.8	330.8	330.8
565.0	449.2	-10.6	1.5	.0	.0	.5	.3	-1.0	.0	.0	102.2	89.1	551.5	360.1	360.1	360.1	360.1	360.1	360.1

ORIGINAL TABLE
OF POOR QUALITY

MASS PROP															AHI	NEG
TIME	NEW VAL	1	2	3	4	5	6	7	8	9	10	11	12	13		
285.0	225.9	1.2	-7	-0	-0	-5	-5.8	9	-0	-0	-0	-0	-0	-0	60.3	296.4
295.0	227.2	1.2	-7	-0	-0	-3	-5.8	9	-0	-0	-0	-0	-0	-0	60.8	298.6
305.0	228.4	1.2	-7	-0	-0	-5	-5.9	1.0	-0	-0	-0	-0	-0	-0	61.4	300.6
315.0	229.7	1.2	-7	-0	-0	-5	-5.9	1.0	-0	-0	-0	-0	-0	-0	61.9	302.6
325.0	231.0	1.2	-8	-0	-0	-5	-6.0	1.0	-0	-0	-0	-0	-0	-0	62.4	304.6
335.0	232.4	1.3	-8	-0	-0	-5	-6.0	1.0	-0	-0	-0	-0	-0	-0	62.9	306.6
345.0	233.8	1.3	-8	-0	-0	-5	-6.1	1.0	-0	-0	-0	-0	-0	-0	63.5	308.8
355.0	235.4	1.3	-8	-0	-0	-6	-6.1	1.0	-0	-0	-0	-0	-0	-0	64.1	311.0
365.0	237.0	1.3	-8	-0	-0	-6	-6.2	1.1	-0	-0	-0	-0	-0	-0	64.7	313.4
375.0	238.9	1.4	-8	-0	-0	-6	-6.3	1.1	-0	-0	-0	-0	-0	-0	65.3	316.0
385.0	240.9	1.4	-8	-0	-0	-6	-6.3	1.1	-0	-0	-0	-0	-0	-0	66.0	318.9
395.0	243.3	1.5	-8	-0	-0	-6	-6.4	1.1	-0	-0	-0	-0	-0	-0	66.8	322.1
405.0	245.9	1.6	-8	-0	-0	-6	-6.4	1.1	-0	-0	-0	-0	-0	-0	67.6	325.7
415.0	248.9	1.7	-8	-0	-0	-6	-6.5	1.2	-0	-0	-0	-0	-0	-0	68.5	329.7
425.0	252.4	1.8	-8	-0	-0	-7	-6.6	1.2	-0	-0	-0	-0	-0	-0	69.4	334.2
435.0	256.4	1.8	-8	-0	-0	-7	-6.7	1.3	-0	-0	-0	-0	-0	-0	70.4	339.4
445.0	261.1	2.0	-8	-0	-0	-7	-6.8	1.3	-0	-0	-0	-0	-0	-0	71.5	345.4
455.0	266.6	2.2	-8	-0	-0	-7	-6.9	1.3	-0	-0	-0	-0	-0	-0	72.6	352.3
465.0	272.1	2.4	-9	-0	-0	-7	-7.0	1.4	-0	-0	-0	-0	-0	-0	73.9	360.3
475.0	281.7	2.7	-9	-0	-0	-7	-7.1	1.4	-0	-0	-0	-0	-0	-0	75.3	369.6
485.0	289.9	3.1	-9	-0	-0	-8	-7.3	1.4	-0	-0	-0	-0	-0	-0	76.9	380.5
495.0	300.7	3.6	-9	-0	-0	-8	-7.4	1.5	-0	-0	-0	-0	-0	-0	78.5	393.1
505.0	313.6	4.2	-10	-0	-0	-8	-7.6	1.5	-0	-0	-0	-0	-0	-0	80.2	407.8
515.0	328.8	5.0	-10	-0	-0	-8	-7.7	1.5	-0	-0	-0	-0	-0	-0	82.0	424.9
525.0	346.7	5.8	-11	-0	-0	-8	-7.8	1.6	-0	-0	-0	-0	-0	-0	83.7	444.5
535.0	367.6	6.8	-12	-0	-0	-8	-8.0	1.6	-0	-0	-0	-0	-0	-0	85.4	466.8
545.0	391.6	7.4	-12	-0	-0	-8	-8.1	1.6	-0	-0	-0	-0	-0	-0	86.8	492.0
555.0	418.8	8.0	-13	-0	-0	-8	-8.2	1.6	-0	-0	-0	-0	-0	-0	88.0	520.3
565.0	449.2	9.9	-14	-0	-0	-8	-8.2	1.6	-0	-0	-0	-0	-0	-0	89.1	551.5
																360.1

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GN/C

ORIGINAL PAGE IS
OF POOR QUALITY

TIME	LGM VAL	GN/C										ANI	NEG
		1	2	3	4	5	6	7	8	9	10		
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0

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TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
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ORIGINAL PAGE
OF POOR QUALITY

5N/C

AHI PDS

TIME	MOH VAL	1	2	3	4	5	6	7	8	GN/C	AMT	NEG
285.0	225.9	-37.4	-1	-11.5	-3	22.5	0	-2	.1	70.6	60.3	296.4
295.0	227.2	-37.7	-1	-11.7	-3	22.8	0	-2	.1	71.4	60.8	298.6
305.0	228.4	-38.0	-1	-11.9	-3	23.0	0	-2	.2	72.2	61.4	300.6
315.0	229.7	-38.4	-1	-11.9	-3	23.3	0	-2	.2	72.9	61.9	302.6
325.0	231.0	-38.7	-1	-12.0	-3	23.5	.1	-2	.2	73.6	62.4	304.6
335.0	232.4	-39.0	-1	-12.2	-4	23.7	.1	-2	.2	74.3	62.9	306.6
345.0	233.8	-39.6	-1	-12.3	-4	23.9	.1	-2	.2	74.9	63.5	308.6
355.0	235.4	-40.1	-1	-12.4	-4	24.2	.1	-2	.2	75.6	64.1	311.0
365.0	237.0	-40.5	-1	-12.6	-4	24.4	.1	-2	.3	76.4	64.7	313.4
375.0	238.9	-40.9	-1	-12.8	-4	24.7	.1	-2	.3	77.2	65.3	316.0
385.0	240.9	-41.4	-1	-12.9	-4	25.0	.1	-2	.3	78.0	66.0	318.9
395.0	243.3	-41.9	-1	-13.1	-4	25.2	.1	-2	.4	78.9	66.8	322.1
405.0	245.9	-42.5	-1	-13.3	-4	25.6	.1	-2	.4	79.8	67.6	325.7
415.0	248.9	-43.1	-1	-13.5	-4	25.9	.1	-2	.5	80.8	68.5	329.7
425.0	252.4	-43.7	-1	-13.7	-5	26.3	.1	-2	.5	81.9	69.4	334.2
435.0	256.4	-44.3	-1	-14.0	-5	26.7	.1	-2	.6	83.0	70.4	339.4
445.0	261.1	-44.9	-1	-14.2	-5	27.1	.1	-2	.7	84.3	71.5	345.4
455.0	266.6	-45.1	-1	-14.6	-5	27.6	.1	-2	.8	85.7	72.6	352.3
465.0	273.1	-45.1	-1	-14.8	-5	28.1	.1	-2	.9	87.3	73.9	360.3
475.0	280.7	-45.9	-1	-15.1	-5	28.7	.1	-2	1.1	88.9	75.3	369.6
485.0	289.9	-47.8	-1	-15.4	-6	29.3	.1	-2	1.3	90.6	76.9	380.5
495.0	300.7	-49.9	-1	-15.8	-6	29.9	.1	-2	1.6	92.4	78.5	393.1
505.0	313.6	-50.0	-1	-16.2	-6	30.5	.0	-2	2.0	94.3	80.2	407.8
515.0	326.8	-51.1	-1	-16.5	-6	31.2	.0	-2	2.4	96.1	82.0	424.9
525.0	346.7	-52.1	-1	-16.9	-6	31.8	.0	-2	3.1	97.8	83.7	444.5
535.0	367.6	-53.1	-1	-17.1	-6	32.3	.0	-2	3.9	99.2	85.4	466.8
545.0	391.6	-53.9	-1	-17.3	-7	32.6	.0	-2	5.0	100.4	86.8	492.0
555.0	418.8	-54.5	-1	-17.4	-7	32.9	.0	-2	6.4	101.5	88.0	520.3
565.0	449.2	-55.0	-1	-17.5	-7	33.1	.0	-2	8.2	102.2	89.1	551.5
575.0												360.1

ORIGINAL 10-1-68
10-1-68

PROPULSION														ALPHA POS	
TIME	NUM VAL	1	2	3	4	5	6	7	8	9	10	11	12		
1.0	10.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	11.5	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	16.8	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.0	10.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.0	10.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.0	9.6	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.0	9.2	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.0	8.8	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.0	9.1	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	10.8	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11.0	12.2	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.0	12.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13.0	12.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14.0	12.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.0	11.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.0	9.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.0	6.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.0	4.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19.0	3.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.0	2.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.0	1.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	1.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.0	1.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ORIGINAL
OF POOR QUALITY

TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11	ALPHA	NEG
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	10.0	-1.2	0.0	0.2	-1.1	-0.0	1.8	0.0	0.0	0.0	-0.0	0.0	0.0	-0.0
2.0	10.5	-1.3	0.0	0.2	-0.2	0.1	-1.3	0.0	0.0	0.0	-0.0	0.0	0.0	7.1
3.0	10.8	-1.4	0.0	0.2	0.0	0.1	-1.3	0.0	0.0	0.0	-0.0	0.0	0.0	8.8
4.0	10.5	-1.3	0.0	0.2	0.0	0.1	-1.3	0.0	0.0	0.0	-0.0	0.0	0.0	8.6
5.0	10.0	-1.3	0.0	0.2	0.0	0.1	-1.3	0.0	0.0	0.0	-0.0	0.0	0.0	8.0
6.0	9.6	-1.2	0.0	0.2	0.0	0.1	-1.3	0.0	0.0	0.0	-0.0	0.0	0.0	7.4
7.0	9.2	-1.1	0.0	0.2	0.0	0.1	-1.3	0.0	0.0	0.0	-0.0	0.0	0.0	6.9
8.0	8.8	-1.1	0.0	0.2	0.0	0.1	-1.3	0.0	0.0	0.0	-0.0	0.0	0.0	6.5
9.0	9.1	-0.9	0.0	0.1	-0.2	0.1	-1.9	0.0	0.0	0.0	-0.0	0.0	0.0	6.2
10.0	10.8	-1.0	0.0	0.1	-0.5	0.2	-1.7	0.0	0.0	0.0	-0.0	0.0	0.0	6.7
11.0	12.2	-0.9	0.0	0.1	-0.8	0.3	-1.4	0.0	0.0	0.0	-0.0	0.0	0.0	6.3
12.0	12.7	-0.7	0.0	0.1	-1.0	0.3	-1.0	0.0	0.0	0.0	-0.0	0.0	0.0	6.7
13.0	12.6	-0.5	0.0	0.1	-1.1	0.3	-0.7	0.0	0.0	0.0	-0.0	0.0	0.0	10.5
14.0	12.0	-0.2	0.0	0.0	-1.1	0.2	-0.3	0.0	0.0	0.0	-0.0	0.0	0.0	10.7
15.0	11.0	0.1	0.0	-0.0	-1.0	0.2	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	10.5
16.0	9.0	0.4	0.0	-0.0	-1.0	0.2	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	9.6
17.0	6.7	0.5	0.0	-0.1	-0.9	0.1	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	7.7
18.0	4.7	0.7	0.0	-0.1	-0.8	0.1	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	5.4
19.0	3.1	1.4	0.0	-0.1	-0.8	0.1	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	5.4
20.0	2.2	1.9	0.0	-0.2	-0.9	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	3.4
21.0	1.8	1.6	0.0	-0.2	-1.0	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	1.8
22.0	1.5	1.4	0.0	-0.2	-0.9	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	1.4
23.0	1.2	1.2	0.0	-0.2	-0.8	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	1.4
24.0	0.8	1.0	0.0	-0.1	-0.7	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	1.4
25.0	0.4	0.8	0.0	-0.1	-0.6	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	1.4
26.0	0.0	0.6	0.0	-0.1	-0.6	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	1.4
27.0	0.5	0.5	0.0	-0.1	-0.5	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	1.4
28.0	0.2	0.2	0.0	-0.1	-0.4	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	1.4
29.0	0.1	0.1	0.0	-0.0	-0.3	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	1.4
30.0	0.0	0.0	0.0	-0.0	-0.2	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	1.4
31.0	0.0	0.0	0.0	-0.0	-0.2	0								

ORIGINAL PAGE
OF POOR QUALITY

PROPULSION

TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11	ALPHA	POS
50.0	-3.0	-5	0	0	1	0	0	1	0	0	0	0	1.5	-4.6
51.0	-3.0	-5	0	0	1	0	0	0	0	0	0	0	1.7	-4.6
52.0	-2.9	-5	0	0	1	0	0	0	0	0	0	0	1.6	-4.5
53.0	-2.8	-5	0	0	0	0	0	0	0	0	0	0	1.4	-4.5
54.0	-2.9	-4	0	0	0	0	0	0	0	0	0	0	1.3	-4.2
55.0	-3.0	-3	0	0	0	0	0	0	0	0	0	0	1.2	-4.2
56.0	-3.0	-2	0	0	1	0	0	0	0	0	0	0	1.2	-4.2
57.0	-3.0	-2	0	0	1	0	0	0	0	0	0	0	1.3	-4.2
58.0	-3.0	-3	0	0	1	0	0	0	0	0	0	0	1.3	-4.2
59.0	-3.0	-4	0	0	1	0	0	0	0	0	0	0	1.5	-4.2
60.0	-2.9	-4	0	0	1	0	0	0	0	0	0	0	1.5	-4.1
61.0	-2.7	-6	0	0	1	0	0	0	0	0	0	0	1.3	-4.0
62.0	-2.5	-8	0	0	1	0	0	0	0	0	0	0	1.5	-3.9
63.0	-2.3	-10	0	0	1	0	0	0	0	0	0	0	1.4	-3.9
64.0	-2.2	-9	0	0	1	0	0	0	0	0	0	0	1.4	-3.8
65.0	-2.0	-9	0	0	1	0	0	0	0	0	0	0	1.6	-3.6
66.0	-1.8	-8	0	0	1	0	0	0	0	0	0	0	1.6	-3.4
67.0	-1.5	-9	0	0	1	0	0	0	0	0	0	0	1.6	-3.2
68.0	-1.3	-11	0	0	1	0	0	0	0	0	0	0	1.6	-3.0
69.0	-1.1	-11	0	0	1	0	0	0	0	0	0	0	1.6	-2.8
70.0	-9	-11	0	0	1	0	0	0	0	0	0	0	1.7	-2.6
71.0	-7	-11	0	0	1	0	0	0	0	0	0	0	1.8	-2.4
72.0	-5	-12	0	0	1	0	0	0	0	0	0	0	1.5	-2.2
73.0	-2	-13	0	0	1	0	0	0	0	0	0	0	1.6	-2.0
74.0	1	-14	0	0	1	0	0	0	0	0	0	0	1.9	-1.8
75.0	3	-14	0	0	1	0	0	0	0	0	0	0	2.0	-1.6
76.0	5	-14	0	0	1	0	0	0	0	0	0	0	2.1	-1.4
77.0	8	-14	0	0	1	0	0	0	0	0	0	0	2.2	-1.2
78.0	12	-15	0	0	1	0	0	0	0	0	0	0	2.2	-1.0
79.0	14	-16	0	0	1	0	0	0	0	0	0	0	2.3	-0.8
80.0	17	-17	0	0	1	0	0	0	0	0	0	0	2.3	-0.6
81.0	20	-17	0	0	1	0	0	0	0	0	0	0	2.1	-0.4
82.0	23	-16	0	0	1	0	0	0	0	0	0	0	2.1	-0.2
83.0	25	-15	0	0	1	0	0	0	0	0	0	0	2.2	0
84.0	28	-14	0	0	1	0	0	0	0	0	0	0	2.2	0.1
85.0	31	-13	0	0	1	0	0	0	0	0	0	0	2.1	0.2
86.0	34	-12	0	0	1	0	0	0	0	0	0	0	2.1	0.3
87.0	37	-11	0	0	1	0	0	0	0	0	0	0	2.2	0.4
88.0	40	-10	0	0	1	0	0	0	0	0	0	0	2.3	0.5
89.0	43	-9	0	0	1	0	0	0	0	0	0	0	2.5	0.6
90.0	46	-8	0	0	1	0	0	0	0	0	0	0	2.6	0.7
91.0	49	-7	0	0	1	0	0	0	0	0	0	0	2.6	0.8
92.0	52	-6	0	0	1	0	0	0	0	0	0	0	2.6	0.9
93.0	55	-5	0	0	1	0	0	0	0	0	0	0	2.7	1.0
94.0	58	-4	0	0	1	0	0	0	0	0	0	0	2.7	1.1
95.0	61	-3	0	0	1	0	0	0	0	0	0	0	2.8	1.2
96.0	64	-2	0	0	1	0	0	0	0	0	0	0	2.7	1.3
97.0	67	-1	0	0	1	0	0	0	0	0	0	0	2.7	1.4
98.0	70	0	0	0	1	0	0	0	0	0	0	0	2.7	1.5
99.0	73	1	0	0	1	0	0	0	0	0	0	0	2.7	1.6

PROPULSION

TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11	ALPHA	PEG
50.0	-3.0	-5	0	-1	-2	0	0	0	0	0	0	0	1.6	-4.6
51.0	-3.0	-4	0	-1	-2	0	0	0	0	0	0	0	1.7	-4.4
52.0	-2.9	-2	0	-1	-2	0	0	0	0	0	0	0	1.5	-4.5
53.0	-2.8	-2	0	-1	-2	0	0	0	0	0	0	0	1.5	-4.2
54.0	-2.9	-2	0	0	-1	0	0	0	0	0	0	0	1.2	-4.2
55.0	-3.0	-3	0	0	0	0	0	0	0	0	0	0	1.2	-4.2
56.0	-3.0	-4	0	0	0	0	0	0	0	0	0	0	1.2	-4.2
57.0	-3.0	-5	0	0	-1	0	0	0	0	0	0	0	1.3	-4.2
58.0	-3.0	-5	0	0	-1	0	0	0	0	0	0	0	1.3	-4.2
59.0	-3.0	-9	0	0	-1	0	0	0	0	0	0	0	1.5	-4.2
60.0	-2.9	1	0	0	-2	0	0	0	0	0	0	0	1.5	-4.1
61.0	-2.7	-9	0	0	-3	0	0	0	0	0	0	0	1.5	-4.0
62.0	-2.5	-9	0	0	-4	0	0	0	0	0	0	0	1.5	-3.9
63.0	-2.3	-9	0	0	-4	0	0	0	0	0	0	0	1.5	-3.8
64.0	-2.0	1	0	0	-2	0	0	0	0	0	0	0	1.4	-3.6
65.0	-2.0	1	0	0	-3	0	0	0	0	0	0	0	1.4	-3.6
66.0	-1.8	1	0	0	-3	0	0	0	0	0	0	0	1.6	-3.4
67.0	-1.5	1	0	0	-4	0	0	0	0	0	0	0	1.6	-3.2
68.0	-1.3	1	0	0	-4	0	0	0	0	0	0	0	1.6	-3.0
69.0	-1.1	1	0	0	-4	0	0	0	0	0	0	0	1.6	-2.8
70.0	-9	1	0	0	-4	0	0	0	0	0	0	0	1.7	-2.6
71.0	-7	1	0	0	-4	0	0	0	0	0	0	0	1.6	-2.4
72.0	-5	1	0	0	-5	0	0	0	0	0	0	0	1.8	-2.2
73.0	-2	1	0	0	-5	0	0	0	0	0	0	0	1.9	-2.0
74.0	-1	1	0	0	-4	0	0	0	0	0	0	0	1.9	-1.8
75.0	3	1	0	0	-4	0	0	0	0	0	0	0	2.0	-1.6
76.0	5	1	0	0	-5	0	0	0	0	0	0	0	2.1	-1.4
77.0	6	1	0	0	-5	0	0	0	0	0	0	0	2.2	-1.2
78.0	1	1	0	0	-5	0	0	0	0	0	0	0	2.2	-1.0
79.0	1	1	0	0	-5	0	0	0	0	0	0	0	2.3	-.7
80.0	1	1	0	0	-5	0	0	0	0	0	0	0	2.3	-.6
81.0	2	1	0	0	-5	0	0	0	0	0	0	0	2.3	-.4
82.0	2	1	0	0	-6	0	0	0	0	0	0	0	2.1	-.2
83.0	2	1	0	0	-6	0	0	0	0	0	0	0	1.7	0
84.0	3	1	0	0	-4	0	0	0	0	0	0	0	1.8	.1
85.0	2	1	0	0	-2	0	0	0	0	0	0	0	2.2	.1
86.0	2	1	0	0	-3	0	0	0	0	0	0	0	2.2	.1
87.0	2	1	0	0	-3	0	0	0	0	0	0	0	2.2	.1
88.0	2	1	0	0	-3	0	0	0	0	0	0	0	2.3	.1
89.0	1	1	0	0	-4	0	0	0	0	0	0	0	2.4	.3
90.0	1	1	0	0	-4	0	0	0	0	0	0	0	2.5	.5
91.0	1	1	0	0	-4	0	0	0	0	0	0	0	2.6	.6
92.0	1	1	0	0	-4	0	0	0	0	0	0	0	2.6	.7
93.0	1	1	0	0	-5	0	0	0	0	0	0	0	2.6	.7
94.0	1	1	0	0	-4	0	0	0	0	0	0	0	2.7	.8
95.0	1	1	0	0	-4	0	0	0	0	0	0	0	2.7	.8
96.0	1	1	0	0	-5	0	0	0	0	0	0	0	2.7	.8
97.0	1	1	0	0	-5	0	0	0	0	0	0	0	2.7	.8
98.0	1	1	0	0	-5	0	0	0	0	0	0	0	2.7	.8
99.0	1	1	0	0	-4	0	0	0	0	0	0	0	2.7	.8

ORIGINAL
OF 11

ORIGINAL OF POOL

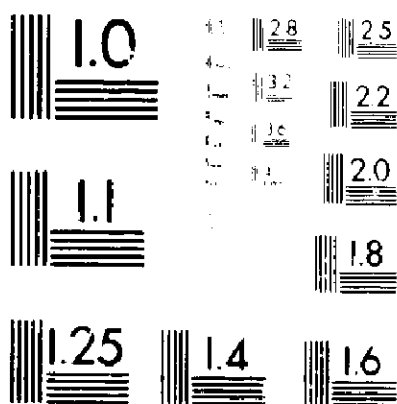
ORIGINAL PAGE IS
OF POOR QUALITY

PROPULSION																									ALPHA POS										
TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25									
285.0	-11.4	-4	1	-2	4	0	-1	0	1.1	-1	3	0	2.0	2.1	-9.4	-13.5																			
295.0	-11.5	-4	1	-2	4	0	-1	0	1.1	-1	3	0	1.9	2.0	-9.6	-13.5																			
305.0	-11.5	-4	1	-2	4	0	-1	0	1.1	-1	3	0	1.8	1.9	-9.7	-13.5																			
315.0	-11.5	-4	1	-2	4	0	-1	0	1.1	-1	3	0	1.8	1.9	-9.7	-13.5																			
325.0	-11.3	-4	1	-1	4	0	-1	0	1.1	-2	3	0	1.7	1.8	-9.6	-13.2																			
335.0	-11.1	-4	1	-1	4	0	-1	0	1.1	-2	2	0	1.7	1.8	-9.5	-12.9																			
345.0	-10.9	-4	1	-1	4	0	-1	0	1.1	-2	2	0	1.6	1.7	-9.3	-12.6																			
355.0	-10.6	-3	1	-1	3	0	-1	0	1.0	-2	2	0	1.5	1.6	-9.0	-12.2																			
365.0	-10.2	-3	1	-1	3	0	-1	0	1.0	-2	2	0	1.5	1.6	-8.7	-11.8																			
375.0	-9.7	-3	1	-1	3	0	-1	0	1.0	-2	2	0	1.4	1.5	-8.3	-11.2																			
385.0	-9.2	-2	1	-1	3	0	-1	0	1.0	-2	1	0	1.4	1.4	-7.9	-10.7																			
395.0	-8.7	-2	1	-1	3	0	-1	0	1.0	-2	1	0	1.3	1.4	-7.4	-10.1																			
405.0	-8.1	-2	1	-1	3	0	-1	0	1.0	-2	1	0	1.3	1.3	-6.9	-9.5																			
415.0	-7.5	-1	1	-1	2	0	-1	0	1.0	-2	1	0	1.2	1.3	-6.3	-8.8																			
425.0	-6.9	-1	1	-1	2	0	-1	0	.9	-2	1	0	1.2	1.2	-5.7	-8.1																			
435.0	-6.1	-1	1	-1	2	0	-1	0	.9	-2	0	0	1.1	1.2	-4.9	-7.3																			
445.0	-5.3	-1	1	-1	2	0	-1	0	.9	-2	0	0	1.1	1.2	-4.2	-6.5																			
455.0	-4.5	-1	1	-1	1	0	-1	0	.8	-2	0	0	1.1	1.2	-3.4	-5.7																			
465.0	-3.7	-1	1	-1	1	0	-1	0	.8	-2	0	0	1.1	1.1	-2.6	-4.8																			
475.0	-2.9	-1	1	-1	1	0	-1	0	.8	-2	0	0	1.1	1.2	-1.8	-4.0																			
485.0	-2.0	-1	1	-1	1	0	-1	0	.7	-2	0	0	1.1	1.2	-.9	-3.1																			
495.0	-1.1	-2	0	-1	0	0	-1	0	.7	-2	0	0	1.1	1.2	-.9	-2.3																			
505.0	-.2	-2	0	-1	0	0	-1	0	.6	-2	0	0	1.2	1.2	1.0	-1.5																			
515.0	.6	-4	0	-1	0	0	-1	0	.5	-2	0	0	1.3	1.3	1.6	-.7																			
525.0	1.6	-3	0	-1	0	0	-1	0	.4	-1	0	0	1.3	1.4	2.9	-.2																			
535.0	2.4	-6	0	-1	0	0	-1	0	.4	-1	0	0	1.5	1.5	3.8	-.9																			
545.0	3.2	-6	0	-1	0	0	-1	0	.3	-1	0	0	1.5	1.6	4.7	1.6																			
555.0	3.9	-7	0	-1	0	0	-1	0	.3	-1	0	0	1.7	1.7	5.6	2.3																			
565.0	4.5	-9	0	-1	0	0	-1	0	.1	-3	0	0	1.8	1.8	6.3	2.7																			

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UNO



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A
CONTAINS REFERENCE MATERIAL FROM
NBS SPECIAL TEST CHARTS

ORIGINAL PAGE 13
OF POOR QUALITY

TIME	NOT VAL	POPULATION										ALPHA NEG									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
285.0	-11.4	.3	.1	.2	.4	.1	.1	.0	-1.1	.1	.3	.0	.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0
295.0	-11.5	.3	.1	.2	.4	.1	.1	.0	-1.1	.1	.3	.0	.0	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8
305.0	-11.5	.3	.1	.2	.4	.1	.1	.0	-1.1	.2	.3	.0	.0	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7
315.0	-11.4	.3	.1	.2	.4	.1	.1	.0	-1.1	.2	.3	.0	.0	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7
325.0	-11.3	.3	.1	.2	.4	.1	.1	.0	-1.1	.2	.3	.0	.0	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6
335.0	-11.1	.3	.1	.2	.4	.1	.1	.0	-1.1	.2	.3	.0	.0	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6
345.0	-10.9	.3	.1	.2	.4	.1	.1	.0	-1.1	.2	.3	.0	.0	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6
355.0	-10.6	.3	.1	.2	.4	.1	.1	.0	-1.1	.2	.3	.0	.0	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
365.0	-9.7	.2	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4
375.0	-9.2	.2	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3
385.0	-8.1	.2	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2
395.0	-7.6	.1	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1
405.0	-6.9	.1	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1
415.0	-6.3	.1	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
425.0	-5.9	.1	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
435.0	-5.3	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
445.0	-4.5	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
455.0	-3.7	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
465.0	-2.9	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
475.0	-2.0	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
485.0	-1.1	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
495.0	.2	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
505.0	.6	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
515.0	1.6	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
525.0	2.4	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
535.0	3.2	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
545.0	3.9	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
555.0	4.5	.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
565.0		.0	.1	.2	.3	.1	.1	.0	-1.1	.2	.3	.0	.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0

ORIGINAL PAGE IS
OF POOR QUALITY

AERO/ENVIRON

TIME	NOCK VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	122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ORIGINAL COPY OF RECORD

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AERO/ENVYTRON										ALPHA FOS									
TIME	NOM VAL	1	2	3	4	5	6	7	8										
50.0	-3.0	-0	-1.4	-2	0	0	0	-1	0	1.2	1.6	-1.4	-4.6						
51.0	-3.0	-0	-1.5	-3	0	0	0	-1	0	1.6	1.7	-1.4	-4.6						
52.0	-2.9	-0	-1.4	-3	0	0	0	-1	0	1.5	1.6	-1.4	-4.5						
53.0	-2.8	-0	-1.2	-3	0	0	0	-1	0	1.3	1.4	-1.5	-4.2						
54.0	-2.9	-0	-1.2	-3	0	0	0	-0	0	1.2	1.3	-1.6	-4.2						
55.0	-3.0	-0	-1.1	-3	0	0	0	-0	0	1.2	1.2	-1.7	-4.2						
56.0	-3.0	-0	-1.1	-3	0	0	0	-1	0	1.2	1.2	-1.8	-4.2						
57.0	-3.0	-0	-1.1	-3	0	0	0	-1	0	1.3	1.2	-1.7	-4.2						
58.0	-3.0	-0	-1.1	-3	0	0	0	-1	0	1.3	1.2	-1.6	-4.2						
59.0	-3.0	-0	-1.1	-3	0	0	0	-1	0	1.5	1.2	-1.5	-4.2						
60.0	-2.9	-1	-1.0	-3	0	0	0	-1	0	1.5	1.2	-1.4	-4.1						
61.0	-2.7	-1	-1.0	-3	0	0	0	-1	0	1.5	1.3	-1.2	-4.0						
62.0	-2.5	-1	-1.0	-3	0	0	0	-2	0	1.5	1.4	-1.0	-3.9						
63.0	-2.3	-1	-1.0	-4	0	0	0	-2	0	1.4	1.5	-1.0	-3.8						
64.0	-2.2	-1	-1.0	-4	0	0	0	-1	0	1.6	1.4	-1.0	-3.6						
65.0	-2.0	-1	-1.0	-3	0	0	0	-2	0	1.6	1.3	-1.5	-3.4						
66.0	-1.8	-1	-1.0	-3	0	0	0	-2	0	1.6	1.3	-1.5	-3.2						
67.0	-1.5	-1	-1.0	-4	0	0	0	-2	0	1.6	1.4	-1.0	-3.0						
68.0	-1.3	-1	-1.0	-3	0	0	0	-2	0	1.6	1.5	-1.0	-2.8						
69.0	-1.1	-1	-1.0	-4	0	0	0	-2	0	1.7	1.5	-1.0	-2.6						
70.0	-1.0	-1	-1.0	-4	0	0	0	-2	0	1.8	1.5	-1.0	-2.4						
71.0	-1.0	-1	-1.0	-3	0	0	0	-2	0	1.8	1.5	-1.0	-2.2						
72.0	-1.0	-2	-1.0	-3	0	0	0	-2	0	1.9	1.6	-1.0	-2.0						
73.0	-1.0	-2	-1.0	-4	0	0	0	-2	0	2.0	1.7	-1.0	-1.8						
74.0	-1.0	-1	-1.0	-4	0	0	0	-2	0	2.1	1.7	-1.0	-1.6						
75.0	-1.0	-1	-1.0	-4	0	0	0	-2	0	2.2	1.7	-1.0	-1.4						
76.0	-1.0	-2	-1.0	-4	0	0	0	-2	0	2.2	1.8	-1.0	-1.2						
77.0	-1.0	-2	-1.0	-4	0	0	0	-2	0	2.3	1.9	-1.0	-1.0						
78.0	-1.2	-2	-1.0	-4	0	0	0	-2	0	2.3	2.0	-1.0	-0.8						
79.0	-1.4	-2	-1.0	-5	0	0	0	-2	0	2.2	2.1	-1.0	-0.6						
80.0	-1.7	-2	-1.0	-5	0	0	0	-2	0	2.1	2.1	-1.0	-0.4						
81.0	-2.0	-2	-1.0	-5	0	0	0	-2	0	1.9	2.2	-1.0	-0.2						
82.0	-2.2	-2	-1.0	-6	0	0	0	-2	0	1.7	2.2	-1.0	0.0						
83.0	-2.3	-1	-1.0	-7	0	0	0	-1	0	1.8	2.2	-1.0	0.1						
84.0	-2.3	-1	-1.0	-8	0	0	0	-1	0	1.9	2.2	-1.0	0.1						
85.0	-2.3	-1	-1.0	-8	0	0	0	-1	0	2.1	2.0	-1.0	0.1						
86.0	-2.1	-1	-1.0	-9	0	0	0	-1	0	2.2	2.1	-1.0	0.0						
87.0	-2.0	-1	-1.0	-9	0	0	0	-1	0	2.3	2.2	-1.0	0.0						
88.0	-2.0	-1	-1.0	-10	0	0	0	-1	0	2.4	2.3	-1.0	0.0						
89.0	-1.9	-1	-1.0	-10	0	0	0	-1	0	2.5	2.4	-1.0	0.0						
90.0	-1.9	-1	-1.0	-10	0	0	0	-1	0	2.6	2.5	-1.0	0.0						
91.0	-1.8	-1	-1.0	-10	0	0	0	-1	0	2.6	2.5	-1.0	0.0						
92.0	-1.8	-1	-1.0	-11	0	0	0	-1	0	2.6	2.6	-1.0	0.0						
93.0	-1.8	-1	-1.0	-11	0	0	0	-1	0	2.7	2.6	-1.0	0.0						
94.0	-1.8	-1	-1.0	-11	0	0	0	-1	0	2.7	2.6	-1.0	0.0						
95.0	-1.8	-1	-1.0	-12	0	0	0	-1	0	2.7	2.6	-1.0	0.0						
96.0	-1.7	-1	-1.0	-12	0	0	0	-1	0	2.8	2.6	-1.0	0.0						
97.0	-1.6	-1	-1.0	-13	0	0	0	-1	0	2.7	2.7	-1.0	0.0						
98.0	-1.6	-1	-1.0	-13	0	0	0	-1	0	2.7	2.6	-1.0	0.0						
99.0	-1.4	-1	-1.0	-13	0	0	0	-1	0	2.7	2.7	-1.0	0.0						

ORIGINAL PAGE IS
OF POOR QUALITY

AEROZENITRON											ALPHA NEG										
TIME	NOV VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
50.0	-3.0	.0	1.4	.2	.0	.0	.0	.1	.0	1.5	1.6	1.4	-4.6								
51.0	-3.0	.0	1.5	.3	.0	.0	.0	.1	.1	1.6	1.7	1.4	-4.6								
52.0	-2.9	.0	1.4	.3	.0	.0	.0	.1	.2	1.5	1.6	1.4	-4.5								
53.0	-2.6	.0	1.2	.3	.0	.0	.0	.1	.1	1.3	1.4	1.5	-4.2								
54.0	-2.9	.0	1.1	.3	.0	.0	.0	.0	.1	1.2	1.3	1.4	-4.2								
55.0	-3.0	.0	1.1	.3	.0	.0	.0	.1	.1	1.2	1.2	1.2	-4.2								
56.0	-3.0	.0	1.1	.3	.0	.0	.0	.1	.1	1.2	1.2	1.2	-4.2								
57.0	-3.0	.0	1.1	.3	.0	.0	.0	.1	.1	1.3	1.3	1.2	-4.2								
58.0	-3.0	.0	1.0	.3	.0	.0	.0	.1	.1	1.3	1.2	1.2	-4.2								
59.0	-3.0	.0	1.0	.3	.0	.0	.0	.1	.1	1.5	1.2	1.2	-4.2								
60.0	-2.9	.1	1.0	.3	.0	.0	.0	.1	.2	1.5	1.2	1.2	-4.1								
61.0	-2.7	.1	.9	.3	.0	.0	.0	.2	.1	1.5	1.3	1.3	-4.0								
62.0	-2.5	.1	.9	.3	.0	.0	.0	.2	.1	1.5	1.4	1.3	-3.9								
63.0	-2.3	.1	.9	.3	.0	.0	.0	.1	.2	1.4	1.5	1.3	-3.8								
64.0	-2.2	.1	.9	.4	.0	.0	.0	.1	.2	1.6	1.4	1.4	-3.6								
65.0	-2.0	.1	.9	.3	.0	.0	.0	.2	.1	1.6	1.3	1.4	-3.4								
66.0	-1.8	.1	.9	.3	.0	.0	.0	.2	.1	1.6	1.3	1.3	-3.2								
67.0	-1.5	.1	.9	.4	.0	.0	.0	.2	.1	1.6	1.4	1.3	-3.0								
68.0	-1.3	.1	.9	.4	.0	.0	.0	.2	.1	1.6	1.5	1.3	-2.8								
69.0	-1.1	.1	.8	.4	.0	.0	.0	.2	.1	1.7	1.5	1.5	-2.6								
70.0	-.9	.1	.8	.4	.0	.0	.0	.2	.0	1.8	1.5	1.5	-2.4								
71.0	-.7	.1	.7	.4	.0	.0	.0	.2	.0	1.8	1.5	1.5	-2.2								
72.0	-.5	.2	.7	.4	.0	.0	.0	.2	.0	1.9	1.6	1.6	-2.0								
73.0	-.2	.2	.7	.4	.0	.0	.0	.2	.0	2.0	1.7	1.6	-1.8								
74.0	.1	.2	.7	.4	.0	.0	.0	.2	.0	2.1	1.7	1.7	-1.6								
75.0	.3	.2	.7	.4	.0	.0	.0	.2	.0	2.1	1.7	1.7	-1.4								
76.0	.5	.2	.7	.4	.0	.0	.0	.2	.0	2.2	1.7	1.7	-1.2								
77.0	.8	.2	.7	.4	.0	.0	.0	.2	.0	2.2	1.8	1.8	-1.0								
78.0	1.2	.2	.7	.5	.0	.0	.0	.2	.1	2.3	1.9	1.9	-.7								
79.0	1.4	.2	.6	.5	.0	.0	.0	.2	.1	2.2	2.0	2.0	-.6								
80.0	1.7	.2	.6	.6	.0	.0	.0	.2	.1	2.1	2.1	2.1	-.4								
81.0	2.0	.2	.6	.6	.0	.0	.0	.2	.1	1.9	2.1	2.1	-.2								
82.0	2.2	.2	.6	.6	.0	.0	.0	.1	.0	1.7	2.2	2.2	.0								
83.0	2.3	.1	.6	.6	.0	.0	.0	.1	.0	1.8	2.2	2.2	.1								
84.0	2.3	.1	.6	.6	.0	.0	.0	.0	.0	1.9	2.2	2.2	.1								
85.0	2.2	.1	.6	.6	.0	.0	.0	.0	.0	1.9	2.2	2.2	.1								
86.0	2.1	.1	.5	.6	.0	.0	.0	.0	.0	2.1	2.1	2.1	.0								
87.0	2.0	.1	.5	.6	.0	.0	.0	.1	.1	2.3	2.2	2.2	.1								
88.0	2.0	.1	.5	.6	.0	.0	.0	.1	.1	2.4	2.3	2.3	.1								
89.0	1.9	.1	.5	.6	.0	.0	.0	.1	.1	2.5	2.4	2.4	.1								
90.0	1.9	.1	.5	.6	.0	.0	.0	.1	.1	2.6	2.4	2.4	.1								
91.0	1.8	.1	.6	.6	.0	.0	.0	.1	.1	2.6	2.5	2.5	.1								
92.0	1.8	.1	.6	.6	.0	.0	.0	.1	.1	2.6	2.6	2.6	.1								
93.0	1.8	.1	.6	.6	.0	.0	.0	.1	.1	2.6	2.6	2.6	.1								
94.0	1.8	.1	.6	.6	.0	.0	.0	.1	.1	2.7	2.6	2.6	.1								
95.0	1.8	.1	.7	.6	.0	.0	.0	.1	.1	2.7	2.6	2.6	.1								
96.0	1.7	.1	.7	.6	.0	.0	.0	.1	.1	2.8	2.6	2.6	.1								
97.0	1.6	.1	.8	.6	.0	.0	.0	.1	.1	2.7	2.7	2.7	.1								
98.0	1.6	.1	.8	.6	.0	.0	.0	.1	.1	2.7	2.7	2.7	.1								
99.0	1.6	.1	.8	.6	.0	.0	.0	.1	.1	2.7	2.7	2.7	.1								
00.0	1.6	.1	.8	.6	.0	.0	.0	.1	.1	2.7	2.7	2.7	.1								

ORIGINAL PAGE
OF POOR QUALITY

AFRO/ENVIRON														ALPHA NEG											
TIME	NOM VAL	1	2	3	4	5	6	7	8																
285.0	-11.4	1	4	7	0	0	0	0	1	2.0	2.1	-9.4	-13.5												
295.0	-11.5	1	4	6	0	0	0	0	1	1.9	2.0	-9.6	-13.5												
305.0	-11.5	1	4	6	0	0	0	0	1	1.8	1.9	-9.7	-13.5												
315.0	-11.5	1	4	5	0	0	0	0	1	1.8	1.9	-9.7	-13.4												
325.0	-11.3	1	3	5	0	0	0	0	1	1.7	1.8	-9.6	-13.2												
335.0	-11.1	1	3	4	0	0	0	0	1	1.7	1.8	-9.5	-12.9												
345.0	-10.9	1	3	4	0	0	0	0	1	1.6	1.7	-9.3	-12.6												
355.0	-10.6	1	2	4	0	0	0	0	1	1.5	1.6	-9.0	-12.2												
365.0	-10.2	1	2	3	0	0	0	0	1	1.5	1.6	-8.7	-11.8												
375.0	-9.9	1	2	3	0	0	0	0	1	1.5	1.5	-8.3	-11.2												
385.0	-9.4	1	1	2	0	0	0	0	1	1.4	1.4	-7.9	-10.7												
395.0	-8.7	1	1	2	0	0	0	0	1	1.4	1.4	-7.4	-10.1												
405.0	-8.1	1	1	1	0	0	0	0	1	1.3	1.3	-6.9	-9.5												
415.0	-7.5	1	1	1	0	0	0	0	1	1.2	1.2	-6.3	-8.8												
425.0	-6.9	1	0	0	0	0	0	0	1	1.2	1.2	-5.7	-8.1												
435.0	-6.3	1	0	0	0	0	0	0	1	1.1	1.1	-4.9	-7.3												
445.0	-5.7	1	0	0	0	0	0	0	1	1.1	1.1	-4.2	-6.5												
455.0	-5.1	1	0	0	0	0	0	0	1	1.1	1.1	-3.4	-5.7												
465.0	-4.5	1	0	0	0	0	0	0	1	1.1	1.1	-2.6	-4.8												
475.0	-3.9	1	0	0	0	0	0	0	1	1.1	1.1	-1.8	-4.0												
485.0	-3.3	1	0	0	0	0	0	0	1	1.1	1.1	-0.9	-3.1												
495.0	-2.7	1	0	0	0	0	0	0	1	1.1	1.1	-0.0	-2.3												
505.0	-2.1	1	0	0	0	0	0	0	1	1.1	1.1	1.0	-1.5												
515.0	-1.5	1	0	0	0	0	0	0	1	1.2	1.2	1.0	-0.7												
525.0	-0.9	1	0	0	0	0	0	0	1	1.3	1.3	1.0	-0.2												
535.0	-0.3	1	0	0	0	0	0	0	1	1.4	1.4	2.9	3.8												
545.0	0.3	1	0	0	0	0	0	0	1	1.5	1.5	4.7	5.6												
555.0	0.9	1	0	0	0	0	0	0	1	1.6	1.6	5.6	6.3												
565.0	1.5	1	0	0	0	0	0	0	1	1.7	1.7	6.3	7.0												

MASS PROP													ALPHA	P05
YIPF	NOM VAL	1	2	3	4	5	6	7	8	9				
1.0	10.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.8	12.4
2.0	10.5	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.7	12.1
3.0	10.9	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.2	12.9
4.0	10.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.5	12.9
5.0	10.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.7	12.6
6.0	9.6	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.7	12.2
7.0	9.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.7	11.8
8.0	8.8	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.6	11.4
9.0	9.1	-2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.4	11.0
10.0	10.8	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.5	13.4
11.0	12.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.4	14.9
12.0	12.7	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.2	15.7
13.0	12.6	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.9	15.7
14.0	14.0	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.5	15.2
15.0	13.0	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.4	14.1
16.0	9.0	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	11.9
17.0	6.7	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	9.4
18.0	4.7	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.5	7.3
19.0	3.1	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	5.7
20.0	2.2	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.7	4.9
21.0	1.8	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.2	4.3
22.0	1.5	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.2	3.7
23.0	1.2	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.0	3.2
24.0	.8	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.7	2.6
25.0	.4	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.5	2.0
26.0	.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.4	1.4
27.0	.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	1.4
28.0	-1.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.2	.8
29.0	-1.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.1	.2
30.0	-2.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.0	-4
31.0	-2.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	.9	-9
32.0	-2.9	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	.9	-1.6
33.0	-3.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.0	-1.6
34.0	-3.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.1	-2.0
35.0	-3.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	-2.1
36.0	-3.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	-2.2
37.0	-3.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	-2.2
38.0	-3.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	-2.2
39.0	-3.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	-2.2
40.0	-3.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	-2.2
41.0	-3.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	-2.2
42.0	-3.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.2	-2.1
43.0	-3.4	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.2	-2.0
44.0	-3.2	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	-2.0
45.0	-3.1	-1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	-1.9
46.0	-3.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	-1.9
47.0	-3.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	-1.9
48.0	-3.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.3	-1.8
49.0	-3.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	1.5	-1.6

ORIGINAL - 1000
OF 2000

CONFIDENTIAL

[illegible]

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971) using a Shimadzu 1601 UV-Visible Spectrophotometer.

TIME	NOM VAL	1	2	3	4	5	6	7	8	9	ALPHA	POS
50.0	-3.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.4	-4.6
51.0	-3.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.4	-4.6
52.0	-2.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.4	-4.5
53.0	-2.8	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.5	-4.2
54.0	-2.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.6	-4.2
55.0	-3.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.7	-4.2
56.0	-3.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.8	-4.2
57.0	-3.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.7	-4.2
58.0	-3.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.6	-4.2
59.0	-3.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.5	-4.2
60.0	-2.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.4	-4.2
61.0	-2.7	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.4	-4.2
62.0	-2.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.4	-4.2
63.0	-2.3	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.2	-4.0
64.0	-2.2	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-1.0	-3.9
65.0	-2.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.9	-3.8
66.0	-1.8	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.6	-3.6
67.0	-1.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.5	-3.4
68.0	-1.3	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.3	-3.2
69.0	-1.1	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-3.0
70.0	-0.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.6	-2.6
71.0	-0.7	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.9	-2.4
72.0	-0.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	1.3	-2.2
73.0	-0.2	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	1.4	-2.0
74.0	-0.1	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	1.7	-1.8
75.0	0.3	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	2.1	-1.6
76.0	0.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	2.2	-1.2
77.0	0.8	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	2.2	-1.0
78.0	1.2	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	2.3	-0.7
79.0	1.4	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	2.4	-0.4
80.0	1.7	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	2.7	0.0
81.0	2.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	3.1	0.6
82.0	2.2	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	3.7	1.2
83.0	2.3	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	3.8	1.4
84.0	2.3	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	4.1	1.7
85.0	2.2	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	4.2	1.9
86.0	2.1											

ORIGINAL FROM
OF POOR QUALITY

ORIGINAL RECORD
OF POOR QUALITY

ALPHA NEG

MASS PROP

TIME	NOM VAL	1	2	3	4	5	6	7	8	9					
50.0	-3.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	1.5	1.6	-1.4	-4.6	*
51.0	-3.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	1.6	1.7	-1.4	-4.6	*
52.0	-2.9	.0	.0	.0	.0	.0	.1	.0	.0	.0	1.5	1.7	-1.4	-4.5	*
53.0	-2.8	.0	.0	.0	.0	.0	.1	.0	.0	.0	1.3	1.4	-1.5	-4.2	*
54.0	-2.9	.0	.0	.0	.0	.0	.2	.0	.0	.0	1.2	1.3	-1.6	-4.2	*
55.0	-3.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	1.2	1.2	-1.7	-4.2	*
56.0	-3.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	1.2	1.2	-1.8	-4.2	*
57.0	-3.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	1.3	1.2	-1.7	-4.2	*
58.0	-3.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	1.3	1.2	-1.6	-4.2	*
59.0	-3.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	1.5	1.2	-1.5	-4.2	*
60.0	-2.9	.0	.0	.0	.0	.0	.2	.0	.0	.0	1.5	1.2	-1.4	-4.1	*
61.0	-2.7	.1	.0	.0	.0	.0	.1	.0	.0	.0	1.5	1.3	-1.2	-4.0	*
62.0	-2.5	.1	.0	.0	.0	.0	.1	.0	.0	.0	1.5	1.3	-1.2	-4.0	*
63.0	-2.3	.1	.0	.0	.0	.0	.2	.0	.0	.0	1.5	1.4	-1.0	-3.9	*
64.0	-2.2	.0	.0	.0	.0	.0	.2	.0	.0	.0	1.4	1.3	-1.0	-3.8	*
65.0	-2.0	.1	.0	.0	.0	.0	.2	.0	.0	.0	1.6	1.5	-1.0	-3.6	*
66.0	-1.8	.1	.0	.0	.0	.0	.1	.0	.0	.0	1.6	1.3	-1.0	-3.6	*
67.0	-1.5	.1	.0	.0	.0	.0	.1	.0	.0	.0	1.1	1.3	-1.0	-3.2	*
68.0	-1.3	.1	.0	.0	.0	.0	.1	.0	.0	.0	1.6	1.5	-1.0	-2.9	*
69.0	-1.1	.1	.0	.0	.0	.0	.1	.0	.0	.0	1.7	1.5	-1.0	-2.6	*
70.0	-.9	.1	.0	.0	.0	.0	.1	.0	.0	.0	1.8	1.5	-1.0	-2.4	*
71.0	-.7	.1	.0	.0	.0	.0	.1	.0	.0	.0	1.8	1.5	-1.0	-2.2	*
72.0	-.5	.1	.0	.0	.0	.0	.1	.0	.0	.0	1.9	1.6	-1.0	-1.8	*
73.0	-.2	.1	.0	.0	.0	.0	.1	.0	.0	.0	2.0	1.7	-1.0	-1.6	*
74.0	.1	.1	.0	.0	.0	.0	.1	.0	.0	.0	2.1	1.7	-1.0	-1.4	*
75.0	.3	.1	.0	.0	.0	.0	.2	.0	.0	.0	2.2	1.7	-1.0	-1.2	*
76.0	.5	.1	.0	.0	.0	.0	.2	.0	.0	.0	2.2	1.8	-1.0	-1.0	*
77.0	.8	.1	.0	.0	.0	.0	.2	.0	.0	.0	2.3	1.9	-1.0	-.7	*
78.0	1.2	.1	.0	.0	.0	.0	.2	.0	.0	.0	2.2	2.0	-1.0	-.6	*
79.0	1.4	.1	.0	.0	.0	.0	.2	.0	.0	.0	2.1	2.1	-1.0	-.4	*
80.0	1.7	.1	.0	.0	.0	.0	.2	.0	.0	.0	1.9	2.1	-1.0	-.2	*
81.0	2.0	.1	.0	.0	.0	.0	.2	.0	.0	.0	1.7	2.2	-1.0	.0	*
82.0	2.3	.1	.0	.0	.0	.0	.3	.0	.0	.0	1.8	2.2	-1.0	.1	*
83.0	2.5	.1	.0	.0	.0	.0	.3	.0	.0	.0	1.9	2.2	-1.0	.1	*
84.0	2.7	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.1	2.1	-1.0	.0	*
85.0	2.9	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.2	2.2	-1.0	.0	*
86.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.3	2.2	-1.0	.0	*
87.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.4	2.3	-1.0	.0	*
88.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.5	2.4	-1.0	.0	*
89.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.6	2.4	-1.0	.0	*
90.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.6	2.5	-1.0	.0	*
91.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.6	2.5	-1.0	.0	*
92.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.6	2.6	-1.0	.0	*
93.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.7	2.6	-1.0	.0	*
94.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.7	2.6	-1.0	.0	*
95.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.8	2.6	-1.0	.0	*
96.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.7	2.6	-1.0	.0	*
97.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.7	2.7	-1.0	.0	*
98.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.7	2.8	-1.0	.0	*
99.0	3.0	.1	.0	.0	.0	.0	.3	.0	.0	.0	2.7	2.7	-1.0	.0	*

MASS PROP										ALPHA POS									
TIME	NOF VAL	1	2	3	4	5	6	7	8	9									
100.0	1.8	-1	0	0	0	0	0	0	0	0	2.8	2.7	4.5	-9					
101.0	1.8	-1	0	0	0	0	0	0	0	0	2.8	2.7	4.5	-9					
102.0	1.8	-1	0	0	0	0	0	0	0	0	2.8	2.7	4.5	-9					
103.0	1.8	-1	0	0	0	0	0	0	0	0	2.8	2.7	4.5	-9					
104.0	1.7	-1	0	0	0	0	0	0	0	0	2.7	2.7	4.5	-9					
105.0	1.7	-1	0	0	0	0	0	0	0	0	2.7	2.7	4.5	-9					
106.0	1.7	-1	0	0	0	0	0	0	0	0	2.7	2.6	4.4	-9					
107.0	1.7	-1	0	0	0	0	0	0	0	0	2.7	2.6	4.4	-9					
108.0	1.7	-1	0	0	0	0	0	0	0	0	2.7	2.6	4.4	-9					
109.0	1.7	-1	0	0	0	0	0	0	0	0	2.8	2.6	4.5	-9					
110.0	1.7	-1	0	0	0	0	0	0	0	0	2.8	2.6	4.5	-9					
111.0	1.7	-1	0	0	0	0	0	0	0	0	2.6	2.6	4.5	-9					
112.0	1.7	-1	0	0	0	0	0	0	0	0	2.7	2.6	4.5	-9					
113.0	1.6	-1	0	0	0	0	0	0	0	0	2.7	2.6	4.5	-9					
114.0	2.0	-2	1	0	0	0	0	0	0	0	2.6	2.6	4.6	-6					
115.0	2.0	-3	2	0	0	0	0	0	0	0	2.8	2.5	4.8	-5					
116.0	2.1	-4	3	0	0	0	0	0	0	0	3.2	2.7	5.3	-6					
117.0	2.1	-5	3	0	0	0	0	0	0	0	4.0	3.0	6.1	-9					
118.0	2.1	-7	3	0	0	0	0	0	0	0	4.0	3.5	6.9	-1					
119.0	2.2	-9	3	0	0	0	0	0	0	0	5.2	4.1	7.4	-1					
120.0	2.4	-9	3	0	0	0	0	0	0	0	5.2	4.5	7.6	-2					
121.0	2.5	-8	4	0	0	0	0	0	0	0	5.0	4.7	7.5	-2					
122.0	2.5	-8	4	0	0	0	0	0	0	0	4.4	4.5	7.0	-2					
123.0	2.3	-6	4	0	0	0	0	0	0	0	4.2	4.2	6.5	-1					
124.0	2.0	-6	5	0	0	0	0	0	0	0	4.1	3.9	6.0	-2					
125.0	1.7	-5	5	0	0	0	0	0	0	0	4.0	3.8	5.7	-2					
126.0	1.5	-6	6	0	0	0	0	0	0	0	3.9	4.0	5.4	-2					
127.0	1.4	-6	5	0	0	0	0	0	0	0	3.6	4.0	5.0	-2					
128.0	1.3	-6	5	0	0	0	0	0	0	0	3.6	4.1	4.9	-2					
129.0	1.0	-6	5	0	0	0	0	0	0	0	4.6	4.0	5.7	-3					
130.0	.8	-6	0	0	0	0	0	0	0	0	5.1	3.6	5.6	-3					
131.0	.6	-6	0	0	0	0	0	0	0	0	5.1	3.6	5.6	-3					
132.0	.3	-6	0	0	0	0	0	0	0	0	5.4	3.5	6.1	-3					
133.0	2.0	-3	0	0	0	0	0	0	0	0	2.2	8.7	5.2	-5					
134.0	2.9	-2	0	0	0	0	0	0	0	0	3.5	6.6	6.4	-3					
135.0	1.9	-3	0	0	0	0	0	0	0	0	6.5	6.7	9.4	-3					
136.0	.4	-3	0	0	0	0	0	0	0	0	5.9	5.8	7.9	-3					
137.0	1.1	-3	0	0	0	0	0	0	0	0	5.2	5.2	5.6	-4					
138.0	2.2	-3	0	0	0	0	0	0	0	0	4.9	4.8	5.8	-5					
139.0	2.2	-3	0	0	0	0	0	0	0	0	4.6	4.5	2.3	-6					
140.0	2.2	-3	0	0	0	0	0	0	0	0	4.2	4.2	1.1	-7					
141.0	2.2	-3	0	0	0	0	0	0	0	0	3.9	3.9	.0	-7					
142.0	2.2	-3	0	0	0	0	0	0	0	0	3.6	3.7	-8	-8					
143.0	2.2	-3	0	0	0	0	0	0	0	0	3.4	3.4	-8	-8					
144.0	2.2	-3	0	0	0	0	0	0	0	0	3.1	3.2	-8	-8					
145.0	2.2	-3	0	0	0	0	0	0	0	0	2.9	2.9	-8	-8					
146.0	2.2	-3	0	0	0	0	0	0	0	0	2.7	2.7	-8	-8					
147.0	2.2	-3	0	0	0	0	0	0	0	0	2.1	2.2	-8	-8					
148.0	2.2	-3	0	0	0	0	0	0	0	0	2.1	2.2	-8	-8					
149.0	2.2	-3	0	0	0	0	0	0	0	0	2.1	2.2	-8	-8					
150.0	2.2	-3	0	0	0	0	0	0	0	0	2.1	2.2	-8	-8					
151.0	2.2	-3	0	0	0	0	0	0	0	0	2.1	2.2	-8	-8					
152.0	2.2	-3	0	0	0	0	0	0	0	0	2.1	2.2	-8	-8					

ORIGINAL FILE
OF POINTS

TIME	NOM VAL	MASS PROP										ALPHA	NEG
		1	2	3	4	5	6	7	8	9			
100.0	1.0	0	0	0	0	0	0	0	0	0	2.0	2.7	4.5
101.0	1.0	0	0	0	0	0	0	0	0	0	2.8	2.7	4.5
102.0	1.0	0	0	0	0	0	0	0	0	0	2.8	2.7	4.5
103.0	1.0	0	0	0	0	0	0	0	0	0	2.8	2.7	4.5
104.0	1.0	0	0	0	0	0	0	0	0	0	2.7	2.7	4.5
105.0	1.0	0	0	0	0	0	0	0	0	0	2.7	2.7	4.5
106.0	1.0	0	0	0	0	0	0	0	0	0	2.7	2.6	4.5
107.0	1.0	0	0	0	0	0	0	0	0	0	2.7	2.6	4.5
108.0	1.0	0	0	0	0	0	0	0	0	0	2.7	2.6	4.5
109.0	1.0	0	0	0	0	0	0	0	0	0	2.8	2.6	4.5
110.0	1.0	0	0	0	0	0	0	0	0	0	2.8	2.6	4.5
111.0	1.0	0	0	0	0	0	0	0	0	0	2.8	2.6	4.5
112.0	1.0	0	0	0	0	0	0	0	0	0	2.8	2.6	4.5
113.0	1.0	0	0	0	0	0	0	0	0	0	2.7	2.6	4.5
114.0	1.0	0	0	0	0	0	0	0	0	0	2.7	2.6	4.5
115.0	1.0	0	0	0	0	0	0	0	0	0	2.6	2.5	4.5
116.0	1.0	0	0	0	0	0	0	0	0	0	2.6	2.5	4.5
117.0	1.0	0	0	0	0	0	0	0	0	0	3.2	2.7	5.3
118.0	1.0	0	0	0	0	0	0	0	0	0	4.0	3.0	6.1
119.0	1.0	0	0	0	0	0	0	0	0	0	4.8	3.5	6.9
120.0	1.0	0	0	0	0	0	0	0	0	0	5.2	4.1	7.8
121.0	1.0	0	0	0	0	0	0	0	0	0	5.0	4.5	7.6
122.0	1.0	0	0	0	0	0	0	0	0	0	5.0	4.7	7.5
123.0	1.0	0	0	0	0	0	0	0	0	0	4.6	4.5	7.0
124.0	1.0	0	0	0	0	0	0	0	0	0	4.2	4.2	6.5
125.0	1.0	0	0	0	0	0	0	0	0	0	4.1	3.9	6.0
126.0	1.0	0	0	0	0	0	0	0	0	0	4.0	3.8	5.7
127.0	1.0	0	0	0	0	0	0	0	0	0	3.9	4.0	5.4
128.0	1.0	0	0	0	0	0	0	0	0	0	3.6	4.0	5.0
129.0	1.0	0	0	0	0	0	0	0	0	0	3.6	4.1	4.9
130.0	1.0	0	0	0	0	0	0	0	0	0	4.6	4.0	5.7
131.0	1.0	0	0	0	0	0	0	0	0	0	5.0	3.6	5.8
132.0	1.0	0	0	0	0	0	0	0	0	0	5.1	3.6	5.6
133.0	1.0	0	0	0	0	0	0	0	0	0	5.0	3.5	6.1
134.0	1.0	0	0	0	0	0	0	0	0	0	2.2	8.7	5.2
135.0	1.0	0	0	0	0	0	0	0	0	0	3.5	6.6	6.4
136.0	1.0	0	0	0	0	0	0	0	0	0	6.5	6.7	9.4
137.0	1.0	0	0	0	0	0	0	0	0	0	5.9	5.8	7.9
138.0	1.0	0	0	0	0	0	0	0	0	0	5.2	5.2	5.6
139.0	1.0	0	0	0	0	0	0	0	0	0	4.9	4.8	3.8
140.0	1.0	0	0	0	0	0	0	0	0	0	4.6	4.5	2.3
141.0	1.0	0	0	0	0	0	0	0	0	0	4.2	4.2	1.1
142.0	1.0	0	0	0	0	0	0	0	0	0	3.9	3.0	0
143.0	1.0	0	0	0	0	0	0	0	0	0	3.6	3.7	0
144.0	1.0	0	0	0	0	0	0	0	0	0	3.4	3.4	0
145.0	1.0	0	0	0	0	0	0	0	0	0	3.1	3.2	0
146.0	1.0	0	0	0	0	0	0	0	0	0	2.9	2.9	0
147.0	1.0	0	0	0	0	0	0	0	0	0	2.7	2.7	0
148.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
149.0	1.0	0	0	0	0	0	0	0	0	0	2.2	2.2	0
150.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
151.0	1.0	0	0	0	0	0	0	0	0	0	2.0	2.1	0
152.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
153.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
154.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
155.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
156.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
157.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
158.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
159.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
160.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
161.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
162.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
163.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
164.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
165.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
166.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
167.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
168.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
169.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
170.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
171.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
172.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
173.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
174.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
175.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
176.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
177.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
178.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
179.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
180.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
181.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
182.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
183.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
184.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
185.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
186.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
187.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
188.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
189.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
190.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
191.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
192.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
193.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
194.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
195.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
196.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
197.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
198.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0
199.0	1.0	0	0	0	0	0	0	0	0	0	2.1	2.1	0

ORIGINAL PAGE IS
OF POOR QUALITY

TIME	ACQ VAL	HASS PROP										ALPHA POS									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
235.0	-11.4	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
295.0	-11.5	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
305.0	-11.5	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
315.0	-11.5	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
325.0	-11.3	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
335.0	-11.1	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
345.0	-10.9	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
355.0	-11.6	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365.0	-10.2	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
375.0	-9.7	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385.0	-9.2	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
395.0	-8.7	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
405.0	-8.1	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
415.0	-7.5	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
425.0	-6.9	-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
435.0	-6.1	-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
445.0	-5.3	-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
455.0	-4.5	-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
465.0	-3.7	-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
475.0	-2.9	-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
485.0	-2.0	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
495.0	-1.1	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
505.0	-.2	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
515.0	1.6	-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
525.0	2.4	-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
535.0	3.2	-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
545.0	3.9	-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
555.0	4.5	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
565.0	4.5	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ORIGINAL PAGE IS
OF POOR QUALITY

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Y

MASS PROP														ALPHA NEG													
TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
285.0	-11.4	.6	-0.0	.0	.0	.0	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
295.0	-11.8	.6	-0.0	.0	.0	.0	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
305.0	-11.5	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
315.0	-11.5	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
325.0	-11.3	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
335.0	-11.1	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
345.0	-10.9	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
355.0	-10.6	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
365.0	-10.2	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
375.0	-9.7	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
385.0	-9.2	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
395.0	-8.7	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
405.0	-8.1	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
415.0	-7.5	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
425.0	-7.9	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
435.0	-7.3	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
445.0	-6.5	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
455.0	-5.7	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
465.0	-4.9	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
475.0	-4.9	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
485.0	-4.0	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
495.0	-2.0	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
505.0	-1.1	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
515.0	.6	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
525.0	1.6	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
535.0	2.4	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
545.0	3.2	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
555.0	3.9	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
565.0	4.5	.6	-0.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

ORIGINAL PARTS
OF POOR QUALITY

TIME	NOV	JAN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219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ORIGIN OF
OF POOR QUALITY

TIME	NOM VAL	1	2	3	4	5	6	7	8	ALPHA	POS
50.0	-3.0	-4	.0	.0	.0	.0	.0	.0	.0	1.5	-4.6
51.0	-3.0	-4	.0	.0	.0	.0	.0	.0	.0	1.6	-4.6
52.0	-2.9	-4	.0	.0	.0	.0	.0	.0	.0	1.5	-4.5
53.0	-2.8	-3	.0	.0	.0	.0	.0	.0	.0	1.4	-4.2
54.0	-3.9	-3	.0	.0	.0	.0	.0	.0	.0	1.3	-4.2
55.0	-3.0	-3	.0	.0	.0	.0	.0	.0	.0	1.2	-4.2
56.0	-3.0	-3	.0	.0	.0	.0	.0	.0	.0	1.2	-4.2
57.0	-3.0	-3	.0	.0	.0	.0	.0	.0	.0	1.3	-4.2
58.0	-3.0	-3	.0	.0	.0	.0	.0	.0	.0	1.3	-4.2
59.0	-2.9	-3	.0	.0	.0	.0	.0	.0	.0	1.5	-4.2
60.0	-2.9	-3	.0	.0	.0	.0	.0	.0	.0	1.5	-4.1
61.0	-2.7	-3	.0	.0	.0	.0	.0	.0	.0	1.5	-4.0
62.0	-2.5	-3	.0	.0	.0	.0	.0	.0	.0	1.5	-3.9
63.0	-2.3	-1	.0	.0	.0	.0	.0	.0	.0	1.4	-3.8
64.0	-2.2	-1	.0	.0	.0	.0	.0	.0	.0	1.6	-3.6
65.0	-2.0	-2	.0	.0	.0	.0	.0	.0	.0	1.6	-3.4
66.0	-1.8	-2	.0	.0	.0	.0	.0	.0	.0	1.6	-3.2
67.0	-1.5	-1	.0	.0	.0	.0	.0	.0	.0	1.6	-3.0
68.0	-1.3	-1	.0	.0	.0	.0	.0	.0	.0	1.7	-2.9
69.0	-1.1	-0	.0	.0	.0	.0	.0	.0	.0	1.5	-2.6
70.0	-.9	-0	.0	.0	.0	.0	.0	.0	.0	1.5	-2.4
71.0	-.7	-0	.0	.0	.0	.0	.0	.0	.0	1.8	-2.2
72.0	-.5	-1	.0	.0	.0	.0	.0	.0	.0	1.9	-2.0
73.0	-.2	-1	.0	.0	.0	.0	.0	.0	.0	2.0	-1.7
74.0	.1	-2	.0	.0	.0	.0	.0	.0	.0	2.1	-1.6
75.0	.3	-2	.0	.0	.0	.0	.0	.0	.0	2.2	-1.4
76.0	.5	-3	.0	.0	.0	.0	.0	.0	.0	2.2	-1.2
77.0	.8	-4	.0	.0	.0	.0	.0	.0	.0	2.3	-1.0
78.0	1.2	-4	.0	.0	.0	.0	.0	.0	.0	2.1	-.7
79.0	1.4	-5	.0	.0	.0	.0	.0	.0	.0	2.1	-.4
80.0	1.7	-6	.0	.0	.0	.0	.0	.0	.0	1.9	-.2
81.0	2.0	-7	.0	.0	.0	.0	.0	.0	.0	1.8	.0
82.0	2.2	-0	.0	.0	.0	.0	.0	.0	.0	1.9	.1
83.0	2.3	-1	.0	.0	.0	.0	.0	.0	.0	2.2	.1
84.0	2.3	-1	.0	.0	.0	.0	.0	.0	.0	2.2	.1
85.0	2.2	-1	.0	.0	.0	.0	.0	.0	.0	2.1	.1
86.0	2.1	-1	.0	.0	.0	.0	.0	.0	.0	2.2	.1
87.0	2.0	-1	.0	.0	.0	.0	.0	.0	.0	2.3	.1
88.0	1.9	-1	.0	.0	.0	.0	.0	.0	.0	2.4	.1
89.0	1.9	-1	.0	.0	.0	.0	.0	.0	.0	2.5	.1
90.0	1.9	-1	.0	.0	.0	.0	.0	.0	.0	2.6	.1
91.0	1.8	-1	.0	.0	.0	.0	.0	.0	.0	2.6	.1
92.0	1.8	-1	.0	.0	.0	.0	.0	.0	.0	2.6	.1
93.0	1.8	-1	.0	.0	.0	.0	.0	.0	.0	2.7	.1
94.0	1.8	-1	.0	.0	.0	.0	.0	.0	.0	2.7	.1
95.0	1.8	-1	.0	.0	.0	.0	.0	.0	.0	2.7	.1
96.0	1.7	-1	.0	.0	.0	.0	.0	.0	.0	2.7	.1
97.0	1.8	-1	.0	.0	.0	.0	.0	.0	.0	2.7	.1
98.0	1.8	-1	.0	.0	.0	.0	.0	.0	.0	2.7	.1
99.0	1.8	-1	.0	.0	.0	.0	.0	.0	.0	2.7	.1

ORIGINAL
OF PLOT 22.1.1.1

TIME	ADM VAL	1	2	3	4	5	6	7	8	ALPHA	NEG
50.0	-3.0	-0	-0	-0	-0	-0	-0	-0	-0	-1.4	-4.6
51.0	-3.0	-0	-0	-0	-0	-0	-0	-0	-0	-1.4	-4.6
52.0	-2.9	-0	-0	-0	-0	-0	-0	-0	-0	-1.4	-4.5
53.0	-2.8	-0	-0	-0	-0	-0	-0	-0	-0	-1.4	-4.5
54.0	-2.9	-0	-0	-0	-0	-0	-0	-0	-0	-1.6	-4.2
55.0	-3.0	-0	-0	-0	-0	-0	-0	-0	-0	-1.7	-4.2
56.0	-3.0	-0	-0	-0	-0	-0	-0	-0	-0	-1.7	-4.2
57.0	-3.0	-0	-0	-0	-0	-0	-0	-0	-0	-1.7	-4.2
58.0	-3.0	-0	-0	-0	-0	-0	-0	-0	-0	-1.6	-4.2
59.0	-3.0	-0	-0	-0	-0	-0	-0	-0	-0	-1.5	-4.2
60.0	-2.9	-0	-0	-0	-0	-0	-0	-0	-0	-1.4	-4.1
61.0	-2.7	-0	-0	-0	-0	-0	-0	-0	-0	-1.2	-4.0
62.0	-2.5	-0	-0	-0	-0	-0	-0	-0	-0	-1.0	-3.9
63.0	-2.3	-0	-0	-0	-0	-0	-0	-0	-0	-0.9	-3.8
64.0	-2.2	-0	-0	-0	-0	-0	-0	-0	-0	-0.6	-3.6
65.0	-2.0	-0	-0	-0	-0	-0	-0	-0	-0	-0.5	-3.4
66.0	-1.8	-0	-0	-0	-0	-0	-0	-0	-0	-0.3	-3.2
67.0	-1.5	-0	-0	-0	-0	-0	-0	-0	-0	-0.0	-3.0
68.0	-1.3	-0	-0	-0	-0	-0	-0	-0	-0	0.3	-2.8
69.0	-1.1	-0	-0	-0	-0	-0	-0	-0	-0	0.5	-2.6
70.0	-0.9	-0	-0	-0	-0	-0	-0	-0	-0	0.9	-2.4
71.0	-0.7	-0	-0	-0	-0	-0	-0	-0	-0	1.1	-2.2
72.0	-0.5	-0	-0	-0	-0	-0	-0	-0	-0	1.1	-2.0
73.0	-0.2	-0	-0	-0	-0	-0	-0	-0	-0	1.4	-1.8
74.0	0.1	-0	-0	-0	-0	-0	-0	-0	-0	1.7	-1.6
75.0	0.3	-0	-0	-0	-0	-0	-0	-0	-0	2.0	-1.4
76.0	0.5	-0	-0	-0	-0	-0	-0	-0	-0	2.1	-1.2
77.0	0.8	-0	-0	-0	-0	-0	-0	-0	-0	2.2	-1.0
78.0	1.2	-0	-0	-0	-0	-0	-0	-0	-0	2.3	-0.7
79.0	1.4	-0	-0	-0	-0	-0	-0	-0	-0	2.2	-0.6
80.0	1.7	-0	-0	-0	-0	-0	-0	-0	-0	2.0	-0.4
81.0	2.0	-0	-0	-0	-0	-0	-0	-0	-0	2.1	-0.2
82.0	2.2	-0	-0	-0	-0	-0	-0	-0	-0	2.1	0.0
83.0	2.3	-0	-0	-0	-0	-0	-0	-0	-0	2.2	0.1
84.0	2.4	-0	-0	-0	-0	-0	-0	-0	-0	2.2	0.1
85.0	2.2	-0	-0	-0	-0	-0	-0	-0	-0	2.0	0.3
86.0	2.1	-0	-0	-0	-0	-0	-0	-0	-0	2.2	0.3
87.0	2.0	-0	-0	-0	-0	-0	-0	-0	-0	2.1	0.3
88.0	1.9	-0	-0	-0	-0	-0	-0	-0	-0	2.2	0.3
89.0	1.8	-0	-0	-0	-0	-0	-0	-0	-0	2.4	0.4
90.0	1.9	-0	-0	-0	-0	-0	-0	-0	-0	2.5	0.5
91.0	1.8	-0	-0	-0	-0	-0	-0	-0	-0	2.6	0.6
92.0	1.8	-0	-0	-0	-0	-0	-0	-0	-0	2.6	0.6
93.0	1.8	-0	-0	-0	-0	-0	-0	-0	-0	2.6	0.6
94.0	1.8	-0	-0	-0	-0	-0	-0	-0	-0	2.7	0.7
95.0	1.8	-0	-0	-0	-0	-0	-0	-0	-0	2.7	0.7
96.0	1.8	-0	-0	-0	-0	-0	-0	-0	-0	2.7	0.7
97.0	1.8	-0	-0	-0	-0	-0	-0	-0	-0	2.7	0.7
98.0	1.8	-0	-0	-0	-0	-0	-0	-0	-0	2.7	0.7
99.0	1.8	-0	-0	-0	-0	-0	-0	-0	-0	2.7	0.7

[illegible]

ORIGINAL FILE
OF POOR QUALITY

TIME	MOM VAL	CM/C										ALPHA	NEG
		1	2	3	4	5	6	7	8	9	10		
100.0	1.8	1.8	0.0	0.1	0.0	0.5	0.0	0.0	0.0	2.7	9.5	0.9	0.0
101.0	1.8	1.8	0.0	0.1	0.0	0.5	0.0	0.0	0.0	2.7	9.5	0.9	0.0
102.0	1.8	1.7	0.0	0.0	0.0	0.5	0.0	0.0	0.0	2.7	9.5	0.9	0.0
103.0	1.8	1.7	0.0	0.0	0.0	0.5	0.0	0.0	0.0	2.7	9.5	0.9	0.0
104.0	1.7	1.7	0.0	0.0	0.0	0.5	0.0	0.0	0.0	2.7	9.5	0.9	0.0
105.0	1.7	1.7	0.0	0.0	0.0	0.5	0.0	0.0	0.0	2.7	9.5	0.9	0.0
106.0	1.7	1.6	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.7	9.5	0.9	0.0
107.0	1.7	1.6	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.7	9.5	0.9	0.0
108.0	1.7	1.6	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.7	9.5	0.9	0.0
109.0	1.7	1.6	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.7	9.5	0.9	0.0
110.0	1.7	1.6	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.7	9.5	0.9	0.0
111.0	1.7	1.6	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.7	9.5	0.9	0.0
112.0	1.7	1.6	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.7	9.5	0.9	0.0
113.0	1.8	1.6	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.7	9.5	0.9	0.0
114.0	2.0	1.4	0.0	0.0	0.0	0.3	0.0	0.0	0.0	2.6	9.5	0.9	0.0
115.0	2.0	1.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	2.6	9.5	0.9	0.0
116.0	2.1	0.9	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.6	9.5	0.9	0.0
117.0	2.1	0.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.6	9.5	0.9	0.0
118.0	2.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
119.0	2.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
120.0	2.4	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.6	9.5	0.9	0.0
121.0	2.5	0.4	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.6	9.5	0.9	0.0
122.0	2.5	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0	2.6	9.5	0.9	0.0
123.0	2.3	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	2.6	9.5	0.9	0.0
124.0	2.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.6	9.5	0.9	0.0
125.0	1.7	0.4	0.0	0.0	0.0	0.2	0.0	0.0	0.0	2.6	9.5	0.9	0.0
126.0	1.5	0.4	0.0	0.0	0.0	0.2	0.0	0.0	0.0	2.6	9.5	0.9	0.0
127.0	1.4	0.4	0.0	0.0	0.0	0.2	0.0	0.0	0.0	2.6	9.5	0.9	0.0
128.0	1.3	0.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.6	9.5	0.9	0.0
129.0	1.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
130.0	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
131.0	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
132.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
133.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
134.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
135.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
145.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
155.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
165.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
175.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
185.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
195.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
205.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
215.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
225.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
235.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
245.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
255.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
265.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0
275.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	9.5	0.9	0.0

ORIGINAL PAGE
OF POOR QUALITY

TIME	NOV VAL	1	2	3	4	5	6	7	8	BN7C	ALPHA	POS
285.0	-11.4	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
295.0	-11.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
305.0	-11.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
315.0	-11.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
325.0	-11.3	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
335.0	-11.1	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
345.0	-10.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
355.0	-10.6	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
365.0	-10.2	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
375.0	-9.7	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
385.0	-9.2	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
395.0	-8.7	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
405.0	-8.1	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
415.0	-7.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
425.0	-6.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
435.0	-6.1	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
445.0	-5.3	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
455.0	-4.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
465.0	-3.7	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
475.0	-2.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
485.0	-2.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
495.0	-1.1	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
505.0	-0.2	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
515.0	0.6	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
525.0	1.6	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
535.0	2.4	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
545.0	3.2	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
555.0	3.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
565.0	4.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0

ORIGINAL PAGE IS
OF POOR QUALITY

TIME	MO VAL	GN/C										ALPHA NEG									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
285.0	-11.4	.8	.0	.3	.0	.5	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
295.0	-11.5	.7	.0	.3	.0	.5	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
305.0	-11.5	.7	.0	.3	.0	.4	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
315.0	-11.5	.6	.0	.3	.0	.4	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
325.0	-11.3	.6	.0	.3	.0	.4	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
335.0	-11.1	.5	.0	.2	.0	.3	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
345.0	-10.9	.5	.0	.2	.0	.3	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
355.0	-10.6	.4	.0	.2	.0	.3	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
365.0	-10.2	.3	.0	.2	.0	.3	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
375.0	-9.7	.3	.0	.1	.0	.2	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
385.0	-9.2	.2	.0	.1	.0	.2	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
395.0	-8.7	.2	.0	.1	.0	.2	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
405.0	-8.1	.1	.0	.1	.0	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
415.0	-7.5	.1	.0	.1	.0	.1	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
425.0	-6.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
435.0	-6.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
445.0	-5.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
455.0	-4.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
465.0	-3.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
475.0	-2.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
485.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
495.0	-1.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
505.0	-.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
515.0	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
525.0	1.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
535.0	2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
545.0	3.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
555.0	3.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
565.0	4.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

ORIGINAL PAGE 12
OF FOUR QUALITY

PROPULSION															BETA POS
TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	
1.0	-13.3	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2.0	-5.5	-7.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3.0	-3.4	-4.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4.0	-2.4	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5.0	-1.9	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6.0	-1.6	-1.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7.0	-1.5	-1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
27.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
29.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
31.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
33.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
34.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
35.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
36.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
38.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
39.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
40.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
41.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
42.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
43.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
44.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
45.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
46.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
47.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
48.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
49.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
50.0	-1.7	-1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

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ORIGINAL FILE NO.														
OF POOR QUALITY														
PROPULSION														
TIME	NOH VAL	1	2	3	4	5	6	7	8	9	10	11	RETA	MEG
1.0	-13.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	-5.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	-3.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.0	-2.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.0	-1.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.0	-1.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.0	-1.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.0	-1.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.0	-1.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	-1.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11.0	-1.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.0	-2.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13.0	2.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14.0	3.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.0	1.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.0	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.0	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.0	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19.0	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.0	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.0	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.0	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.0	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.0	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.0	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.0	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29.0	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.0	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33.0	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34.0	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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OF POOF 000000

PROPULSION															BETA	POS
TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11	12	13		
50.0	4	-1	0	0	3	0	1	0	0	0	0	0	1.1	1.6	1.5	-1.2
51.0	4	-1	0	0	2	0	1	0	0	0	0	0	1.2	1.6	1.6	-1.2
52.0	4	0	0	0	1	0	1	0	0	0	0	0	1.2	1.5	1.6	-1.2
53.0	3	1	0	0	2	0	1	0	0	0	0	0	1.2	1.5	1.5	-1.2
54.0	2	2	0	0	2	0	1	0	0	0	0	0	1.2	1.6	1.5	-1.3
55.0	2	2	0	0	2	0	1	0	0	0	0	0	1.2	1.6	1.5	-1.3
56.0	2	1	0	0	2	0	1	0	0	0	0	0	1.2	1.6	1.5	-1.4
57.0	3	0	0	0	3	0	1	0	0	0	0	0	1.3	1.6	1.5	-1.4
58.0	3	0	0	0	3	0	1	0	0	0	0	0	1.3	1.7	1.5	-1.4
59.0	3	0	0	0	3	0	1	0	0	0	0	0	1.3	1.7	1.6	-1.5
60.0	3	0	0	0	3	0	1	0	0	0	0	0	1.3	1.7	1.6	-1.5
61.0	3	0	0	0	3	0	1	0	0	0	0	0	1.3	1.8	1.6	-1.5
62.0	3	0	0	0	3	0	1	0	0	0	0	0	1.3	1.8	1.6	-1.5
63.0	3	0	0	0	3	0	1	0	0	0	0	0	1.3	1.8	1.6	-1.5
64.0	3	0	0	0	3	0	1	0	0	0	0	0	1.3	1.8	1.6	-1.5
65.0	3	0	0	0	3	0	1	0	0	0	0	0	1.3	1.8	1.6	-1.5
66.0	3	0	0	0	3	0	1	0	0	0	0	0	1.3	1.8	1.6	-1.5
67.0	3	0	0	0	3	0	1	0	0	0	0	0	1.3	1.7	1.5	-1.4
68.0	3	0	0	0	3	0	1	0	0	0	0	0	1.2	1.6	1.4	-1.2
69.0	4	0	0	0	3	0	1	0	0	0	0	0	1.1	1.5	1.4	-1.2
70.0	4	0	0	0	3	0	1	0	0	0	0	0	1.0	1.4	1.4	-1.1
71.0	4	0	0	0	3	0	1	0	0	0	0	0	1.0	1.4	1.4	-1.1
72.0	4	0	0	0	3	0	1	0	0	0	0	0	1.0	1.4	1.4	-1.0
73.0	4	0	0	0	3	0	1	0	0	0	0	0	1.0	1.4	1.4	-1.0
74.0	4	0	0	0	3	0	1	0	0	0	0	0	1.0	1.4	1.4	-1.0
75.0	4	0	0	0	3	0	2	0	0	0	0	0	1.0	1.4	1.4	-1.0
76.0	4	0	0	0	3	0	2	0	0	0	0	0	1.0	1.4	1.3	-1.0
77.0	4	0	0	0	3	0	2	0	0	0	0	0	1.0	1.4	1.3	-1.0
78.0	4	0	0	0	3	0	2	0	0	0	0	0	1.0	1.4	1.3	-1.0
79.0	4	0	0	0	3	0	2	0	0	0	0	0	1.0	1.4	1.3	-1.0
80.0	4	0	0	0	3	0	2	0	0	0	0	0	1.0	1.4	1.3	-1.0
81.0	5	0	0	0	3	0	2	0	0	0	0	0	1.1	1.4	1.5	-1.0
82.0	5	0	0	0	3	0	2	0	0	0	0	0	1.1	1.4	1.6	-1.0
83.0	6	0	0	0	3	0	2	0	0	0	0	0	1.2	1.4	1.7	-1.0
84.0	6	0	0	0	3	0	3	0	0	0	0	0	1.3	1.5	1.8	-1.0
85.0	6	0	0	0	3	0	3	0	0	0	0	0	1.3	1.5	1.9	-1.0
86.0	7	0	0	0	3	0	3	0	0	0	0	0	1.4	1.6	2.0	-1.0
87.0	7	0	0	0	3	0	3	0	0	0	0	0	1.5	1.7	2.2	-1.0
88.0	7	0	0	0	3	0	3	0	0	0	0	0	1.6	1.8	2.3	-1.1
89.0	6	0	0	0	3	0	3	0	0	0	0	0	1.8	1.9	2.4	-1.2
90.0	6	0	0	0	3	0	3	0	0	0	0	0	1.8	1.9	2.4	-1.3
91.0	6	0	0	0	3	0	3	0	0	0	0	0	1.8	1.9	2.4	-1.3
92.0	5	0	0	0	3	0	3	0	0	0	0	0	1.8	1.9	2.4	-1.4
93.0	5	0	0	0	3	0	3	0	0	0	0	0	1.8	1.9	2.4	-1.4
94.0	6	0	0	0	3	0	3	0	0	0	0	0	1.8	1.9	2.4	-1.4
95.0	6	0	0	0	3	0	3	0	0	0	0	0	1.9	1.9	2.4	-1.4
96.0	6	0	0	0	3	0	3	0	0	0	0	0	1.9	1.9	2.4	-1.4
97.0	7	0	0	0	3	0	3	0	0	0	0	0	1.9	1.9	2.5	-1.3
98.0	7	0	0	0	3	0	3	0	0	0	0	0	1.9	1.9	2.5	-1.3
99.0	7	0	0	0	3	0	3	0	0	0	0	0	1.9	1.9	2.6	-1.3

ORIGINAL DATA OF PRODUCTION

TIME	NOM VAL	PROPULSION										RETA	
		1	2	3	4	5	6	7	8	9	10	11	NEG
50.0	14	0	0	0	0	0	0	0	0	0	0	0	0
51.0	4	0	0	0	0	0	0	0	0	0	0	0	0
52.0	4	0	0	0	0	0	0	0	0	0	0	0	0
53.0	3	0	0	0	0	0	0	0	0	0	0	0	0
54.0	3	0	0	0	0	0	0	0	0	0	0	0	0
55.0	2	0	0	0	0	0	0	0	0	0	0	0	0
56.0	2	0	0	0	0	0	0	0	0	0	0	0	0
57.0	3	0	0	0	0	0	0	0	0	0	0	0	0
58.0	3	0	0	0	0	0	0	0	0	0	0	0	0
59.0	3	0	0	0	0	0	0	0	0	0	0	0	0
60.0	3	0	0	0	0	0	0	0	0	0	0	0	0
61.0	3	0	0	0	0	0	0	0	0	0	0	0	0
62.0	3	0	0	0	0	0	0	0	0	0	0	0	0
63.0	3	0	0	0	0	0	0	0	0	0	0	0	0
64.0	3	0	0	0	0	0	0	0	0	0	0	0	0
65.0	3	0	0	0	0	0	0	0	0	0	0	0	0
66.0	3	0	0	0	0	0	0	0	0	0	0	0	0
67.0	3	0	0	0	0	0	0	0	0	0	0	0	0
68.0	3	0	0	0	0	0	0	0	0	0	0	0	0
69.0	4	0	0	0	0	0	0	0	0	0	0	0	0
70.0	4	0	0	0	0	0	0	0	0	0	0	0	0
71.0	4	0	0	0	0	0	0	0	0	0	0	0	0
72.0	4	0	0	0	0	0	0	0	0	0	0	0	0
73.0	4	0	0	0	0	0	0	0	0	0	0	0	0
74.0	4	0	0	0	0	0	0	0	0	0	0	0	0
75.0	4	0	0	0	0	0	0	0	0	0	0	0	0
76.0	4	0	0	0	0	0	0	0	0	0	0	0	0
77.0	4	0	0	0	0	0	0	0	0	0	0	0	0
78.0	4	0	0	0	0	0	0	0	0	0	0	0	0
79.0	4	0	0	0	0	0	0	0	0	0	0	0	0
80.0	5	0	0	0	0	0	0	0	0	0	0	0	0
81.0	5	0	0	0	0	0	0	0	0	0	0	0	0
82.0	5	0	0	0	0	0	0	0	0	0	0	0	0
83.0	6	0	0	0	0	0	0	0	0	0	0	0	0
84.0	6	0	0	0	0	0	0	0	0	0	0	0	0
85.0	7	0	0	0	0	0	0	0	0	0	0	0	0
86.0	7	0	0	0	0	0	0	0	0	0	0	0	0
87.0	7	0	0	0	0	0	0	0	0	0	0	0	0
88.0	7	0	0	0	0	0	0	0	0	0	0	0	0
89.0	6	0	0	0	0	0	0	0	0	0	0	0	0
90.0	6	0	0	0	0	0	0	0	0	0	0	0	0
91.0	5	0	0	0	0	0	0	0	0	0	0	0	0
92.0	5	0	0	0	0	0	0	0	0	0	0	0	0
93.0	5	0	0	0	0	0	0	0	0	0	0	0	0
94.0	6	0	0	0	0	0	0	0	0	0	0	0	0
95.0	6	0	0	0	0	0	0	0	0	0	0	0	0
96.0	7	0	0	0	0	0	0	0	0	0	0	0	0
97.0	7	0	0	0	0	0	0	0	0	0	0	0	0
98.0	7	0	0	0	0	0	0	0	0	0	0	0	0
99.0	7	0	0	0	0	0	0	0	0	0	0	0	0
100.0	7	0	0	0	0	0	0	0	0	0	0	0	0

ORIGINAL PAGE IS
OF POOR QUALITY

TIME	MON VAL	PROPULSION										BETA POS	
		1	2	3	4	5	6	7	8	9	10	11	
285.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
295.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
305.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
315.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
325.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
335.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
345.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
355.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
365.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
375.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
385.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
395.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
405.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
415.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
425.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
435.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
445.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
455.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
465.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
475.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
485.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
495.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
505.0	-2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
515.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
525.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
535.0	-2.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
545.0	-2.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
555.0	-2.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
565.0	-3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

ORIGINAL PAPER
OF POOR QUALITY

PROPULSION											RETA NEG	
TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11
285.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
295.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
305.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
315.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
325.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
335.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
345.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
355.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
365.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
375.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
385.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
395.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
405.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
415.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
425.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
435.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
445.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
455.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
465.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
475.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
485.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
495.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
505.0	-2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
515.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
525.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
535.0	-2.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
545.0	-2.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
555.0	-2.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
565.0	-3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

ORIGINAL PAGE IS
OF POOR QUALITY

AFRO/ENVIRON										PETA NEG									
TIME	NO. VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	15.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.0	5.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4.0	3.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.0	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.0	1.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.0	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.0	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.0	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.0	1.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.0	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.0	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.0	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.0	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.0	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.0	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.0	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21.0	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.0	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23.0	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24.0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25.0	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27.0	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28.0	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.0	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30.0	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31.0	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32.0	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33.0	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34.0	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35.0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39.0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42.0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43.0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44.0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45.0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47.0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48.0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49.0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50.0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ORIGINAL PAGE IS
OF POOR QUALITY

AFRO/ENVIRO														RITA POS											
TIME	NOM	VAL	1	2	3	4	5	6	7	8															
50.0	.4		.0	.0	.0	.9	.3	.2	.0	.0	1.1	1.6	1.5	1.2											
51.0	.4		.0	.0	.0	.9	.4	.2	.0	.1	1.2	1.6	1.6	1.2											
52.0	.4		.0	.0	.0	.9	.3	.2	.0	.1	1.2	1.5	1.5	1.2											
53.0	.4		.0	.0	.0	.9	.4	.2	.0	.0	1.2	1.5	1.5	1.2											
54.0	.2	.0	.0	.0	.0	1.0	.4	.1	.0	.0	1.2	1.6	1.5	1.3											
55.0	.2	.0	.0	.0	.0	1.0	.4	.1	.0	.0	1.2	1.6	1.5	1.3											
56.0	.2	.0	.0	.0	.0	1.0	.5	.1	.0	.0	1.2	1.6	1.5	1.3											
57.0	.3	.0	.0	.0	.0	1.0	.5	.2	.0	.0	1.3	1.7	1.5	1.4											
58.0	.3	.0	.0	.0	.0	1.0	.5	.2	.0	.0	1.3	1.7	1.6	1.4											
59.0	.3	.0	.0	.0	.0	1.0	.5	.2	.0	.0	1.3	1.7	1.6	1.4											
60.0	.3	.0	.0	.0	.0	1.0	.5	.2	.0	.0	1.3	1.7	1.6	1.4											
61.0	.3	.0	.0	.0	.0	1.0	.6	.2	.0	.0	1.3	1.8	1.6	1.5											
62.0	.3	.0	.0	.0	.0	1.0	.6	.2	.0	.0	1.3	1.8	1.6	1.5											
63.0	.3	.0	.0	.0	.0	1.0	.6	.2	.0	.0	1.3	1.8	1.6	1.5											
64.0	.3	.0	.0	.0	.0	1.0	.6	.2	.0	.0	1.3	1.8	1.6	1.5											
65.0	.3	.0	.0	.0	.0	1.0	.6	.2	.0	.0	1.3	1.8	1.6	1.5											
66.0	.3	.0	.0	.0	.0	1.0	.6	.2	.0	.0	1.3	1.8	1.6	1.5											
67.0	.3	.0	.0	.0	.0	.8	.5	.2	.0	.0	1.1	1.5	1.4	1.3											
68.0	.3	.0	.0	.0	.0	.8	.5	.2	.0	.0	1.1	1.5	1.4	1.3											
69.0	.4	.0	.0	.0	.0	.8	.5	.2	.0	.0	1.0	1.4	1.4	1.4											
70.0	.4	.0	.0	.0	.0	.8	.5	.2	.0	.0	1.0	1.4	1.4	1.4											
71.0	.4	.0	.0	.0	.0	.8	.5	.2	.0	.0	1.0	1.4	1.4	1.4											
72.0	.4	.0	.0	.0	.0	.7	.6	.2	.0	.0	1.0	1.4	1.4	1.4											
73.0	.4	.0	.0	.0	.0	.7	.6	.2	.0	.0	1.0	1.4	1.4	1.4											
74.0	.4	.0	.0	.0	.0	.7	.6	.2	.0	.0	1.0	1.4	1.4	1.4											
75.0	.4	.0	.0	.0	.0	.6	.5	.2	.0	.0	.9	1.4	1.3	1.3											
76.0	.4	.0	.0	.0	.0	.7	.6	.3	.0	.0	1.0	1.4	1.4	1.4											
77.0	.4	.0	.0	.0	.0	.6	.6	.3	.0	.0	.9	1.3	1.3	1.3											
78.0	.4	.0	.0	.0	.0	.6	.6	.3	.0	.0	1.0	1.4	1.4	1.4											
79.0	.4	.0	.0	.0	.0	.5	.6	.3	.0	.0	1.0	1.3	1.4	1.4											
80.0	.4	.0	.0	.0	.0	.6	.7	.3	.0	.0	1.1	1.4	1.5	1.5											
81.0	.5	.0	.0	.0	.0	.4	.6	.3	.0	.0	1.1	1.4	1.6	1.6											
82.0	.5	.0	.0	.0	.0	.5	.7	.3	.0	.0	1.2	1.4	1.7	1.7											
83.0	.6	.0	.0	.0	.0	.4	.7	.3	.0	.0	1.2	1.5	1.8	1.8											
84.0	.6	.0	.0	.0	.0	.4	.8	.3	.0	.0	1.3	1.5	1.9	1.9											
85.0	.6	.0	.0	.0	.0	.3	.8	.3	.0	.0	1.4	1.6	2.0	2.0											
86.0	.7	.0	.0	.0	.0	.3	.8	.3	.0	.0	1.5	1.7	2.2	2.2											
87.0	.7	.0	.0	.0	.0	.2	.8	.4	.0	.0	1.6	1.8	2.3	2.3											
88.0	.7	.0	.0	.0	.0	.2	.9	.4	.0	.0	1.8	1.9	2.4	2.4											
89.0	.6	.0	.0	.0	.0	.2	.9	.4	.0	.0	1.8	1.9	2.4	2.4											
90.0	.6	.0	.0	.0	.0	.2	.9	.4	.0	.0	1.8	1.9	2.4	2.4											
91.0	.6	.0	.0	.0	.0	.2	.9	.4	.0	.0	1.8	1.9	2.4	2.4											
92.0	.5	.0	.0	.0	.0	.2	.9	.4	.0	.0	1.8	1.9	2.4	2.4											
93.0	.5	.0	.0	.0	.0	.3	1.0	.3	.0	.0	1.9	1.9	2.4	2.4											
94.0	.6	.0	.0	.0	.0	.3	1.0	.3	.0	.0	1.9	1.9	2.4	2.4											
95.0	.6	.0	.0	.0	.0	.3	1.0	.3	.0	.0	1.9	1.9	2.4	2.4											
96.0	.6	.0	.0	.0	.0	.3	1.1	.3	.0	.0	1.9	2.0	2.5	2.5											
97.0	.7	.0	.0	.0	.0	.3	1.1	.3	.0	.0	1.9	2.0	2.5	2.5											
98.0	.6	.0	.0	.0	.0	.3	1.1	.3	.0	.0	1.9	2.0	2.6	2.6											
99.0	.7	.0	.0	.0	.0	.4	1.1	.3	.0	.0	1.9	2.0	2.6	2.6											

ORIGINAL PAGE IS
OF POOR QUALITY

ALPOZENVTRON										BETA POS									
TIME	ROM VAL	1	2	3	4	5	6	7	8										
285.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.8	-2.0							
295.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.9	-2.0							
305.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.9	-2.0							
315.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.9	-2.0							
325.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.9	-2.0							
335.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.0	-2.1							
345.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.0	-2.1							
355.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.0	-2.1							
365.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.0	-2.1							
375.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.0	-2.1							
385.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	-2.2							
395.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	-2.2							
405.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	-2.2							
415.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	-2.2							
425.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.2	-2.3							
435.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.2	-2.3							
445.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.2	-2.3							
455.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.2	-2.3							
465.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	-2.4							
475.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	-2.4							
485.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	-2.4							
495.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.4	-2.5							
505.0	-2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.4	-2.5							
515.0	-2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.4	-2.5							
525.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.5	-2.6							
535.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.5	-2.6							
545.0	-2.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.6	-2.7							
555.0	-2.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.6	-2.8							
565.0	-2.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.7	-2.9							
575.0	-3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.8	-3.0							
585.0	-3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.9	-3.2							

AERO/ENVIRON

1

TIME	NOV	VAL	1	2	3	4	5	6	7	8	BETA	NEG
285.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
295.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
305.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
315.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
325.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
335.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
345.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
355.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
365.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
375.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
385.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
395.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
405.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
415.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
425.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
435.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
445.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
455.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
465.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
475.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
485.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
495.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
505.0	-2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
515.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
525.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
535.0	-2.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
545.0	-2.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
555.0	-2.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
565.0	-3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

ORIGINAL PAGE IS
OF POOR QUALITY

HALL PROP											BETA POS
TIME	NCH VAL	1	2	3	4	5	6	7	8	9	
0	0	0	0	0	0	0	0	0	0	0	0
10.0	-13.3	-1	-1	-0	-0	-0	-0	-0	-0	-0	-10.8
20.0	-5.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-4.8
30.0	-3.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-2.7
40.0	-2.9	-0	-0	-0	-0	-0	-0	-0	-0	-0	-1.6
50.0	-1.9	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.9
60.0	-1.6	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.6
70.0	-1.6	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.4
80.0	-1.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.4
90.0	-1.7	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.6
100.0	-1.7	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.4
110.0	-1.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.6
120.0	-1.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.6
130.0	1.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
140.0	1.6	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
150.0	1.7	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
160.0	1.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
170.0	1.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
180.0	0.9	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
190.0	1.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
200.0	1.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
210.0	1.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
220.0	1.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
230.0	1.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
240.0	1.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
250.0	1.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
260.0	1.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
270.0	1.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
280.0	1.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
290.0	1.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
300.0	1.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
310.0	0.9	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
320.0	0.8	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
330.0	0.7	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
340.0	0.6	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
350.0	0.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
360.0	0.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
370.0	0.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
380.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
390.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
400.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
410.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
420.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
430.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
440.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
450.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
460.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
470.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
480.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
490.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7
500.0	0.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0.7

ORIGINAL PART OF
OF POOR QUALITY

TIME	NOM VAL	1	2	3	4	5	6	7	8	9	HASS PROP	RETA	NEG
50.0	4	0	0	0	0	0	-1.1	0	0	0	1.1	1.6	1.5
51.0	4	0	0	0	0	0	-1.0	0	0	0	1.2	1.6	1.6
52.0	4	0	0	0	0	0	-1.0	0	0	0	1.2	1.5	1.6
53.0	4	0	0	0	0	0	-1.0	0	0	0	1.2	1.6	1.5
54.0	4	0	0	0	0	0	-1.0	0	0	0	1.2	1.6	1.5
55.0	4	0	0	0	0	0	-1.0	0	0	0	1.2	1.6	1.5
56.0	4	0	0	0	0	0	-1.0	0	0	0	1.2	1.6	1.5
57.0	4	0	0	0	0	0	-1.1	0	0	0	1.3	1.6	1.5
58.0	4	0	0	0	0	0	-1.1	0	0	0	1.3	1.6	1.5
59.0	4	0	0	0	0	0	-1.1	0	0	0	1.3	1.7	1.5
60.0	4	0	0	0	0	0	-1.1	0	0	0	1.3	1.7	1.6
61.0	4	0	0	0	0	0	-1.2	0	0	0	1.3	1.7	1.6
62.0	4	0	0	0	0	0	-1.2	0	0	0	1.3	1.8	1.6
63.0	4	0	0	0	0	0	-1.2	0	0	0	1.3	1.8	1.6
64.0	4	0	0	0	0	0	-1.2	0	0	0	1.3	1.7	1.5
65.0	4	0	0	0	0	0	-1.2	0	0	0	1.2	1.6	1.5
66.0	4	0	0	0	0	0	-1.1	0	0	0	1.1	1.5	1.4
67.0	4	0	0	0	0	0	-1.1	0	0	0	1.1	1.5	1.4
68.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
69.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
70.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
71.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
72.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
73.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
74.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
75.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
76.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
77.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
78.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
79.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
80.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
81.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
82.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
83.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
84.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
85.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
86.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
87.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
88.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
89.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
90.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
91.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
92.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
93.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
94.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
95.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
96.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
97.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
98.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4
99.0	4	0	0	0	0	0	-1.0	0	0	0	1.0	1.4	1.4

ORIGINAL PART OF POOR QUALITY

ORIGINAL PAGE 13
OF FOUR

TIME	NOM VAL	1	2	3	4	5	6	7	8	9	BETA	FOS
285.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	-1.8	-2.0
295.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	-1.9	-2.0
305.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	-1.9	-2.0
315.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-1.9	-2.0
325.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-1.9	-2.1
335.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.0	-2.1
345.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.0	-2.1
355.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.0	-2.1
365.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.0	-2.1
375.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.0	-2.2
385.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.1	-2.2
395.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.1	-2.2
405.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.1	-2.2
415.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.1	-2.2
425.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.2	-2.2
435.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.2	-2.3
445.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.2	-2.3
455.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.2	-2.3
465.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	-2.3
475.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	-2.4
485.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	-2.4
495.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.4	-2.5
505.0	-2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.4	-2.5
515.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.4	-2.6
525.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.5	-2.6
535.0	-2.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.6	-2.7
545.0	-2.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.6	-2.8
555.0	-2.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.7	-2.9
565.0	-3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.8	-3.0

ORIGINAL PAGE
OF POOR QUALITY

TIME	LOH VAL	MASS PROP										BETA NEG									
		1	2	3	4	5	6	7	8	9		1	2	3	4	5	6	7	8	9	
285.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.8	.0	.0	.0	.0	.0	.0	.0	.0
295.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.9	.0	.0	.0	.0	.0	.0	.0	.0
305.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.9	.0	.0	.0	.0	.0	.0	.0	.0
315.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.9	.0	.0	.0	.0	.0	.0	.0	.0
325.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.9	.0	.0	.0	.0	.0	.0	.0	.0
335.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.0	.0	.0	.0	.0	.0	.0	.0	.0
345.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.0	.0	.0	.0	.0	.0	.0	.0	.0
355.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.0	.0	.0	.0	.0	.0	.0	.0	.0
365.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.0	.0	.0	.0	.0	.0	.0	.0	.0
375.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	.0	.0	.0	.0	.0	.0	.0	.0
385.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	.0	.0	.0	.0	.0	.0	.0	.0
395.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	.0	.0	.0	.0	.0	.0	.0	.0
405.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	.0	.0	.0	.0	.0	.0	.0	.0
415.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.2	.0	.0	.0	.0	.0	.0	.0	.0
425.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.2	.0	.0	.0	.0	.0	.0	.0	.0
435.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.2	.0	.0	.0	.0	.0	.0	.0	.0
445.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0
455.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0
465.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0
475.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0
485.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.4	.0	.0	.0	.0	.0	.0	.0	.0
495.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.4	.0	.0	.0	.0	.0	.0	.0	.0
505.0	-2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.4	.0	.0	.0	.0	.0	.0	.0	.0
515.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.5	.0	.0	.0	.0	.0	.0	.0	.0
525.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.6	.0	.0	.0	.0	.0	.0	.0	.0
535.0	-2.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.6	.0	.0	.0	.0	.0	.0	.0	.0
545.0	-2.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.7	.0	.0	.0	.0	.0	.0	.0	.0
555.0	-2.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.8	.0	.0	.0	.0	.0	.0	.0	.0
565.0	-3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.9	.0	.0	.0	.0	.0	.0	.0	.0

ORIGINAL PAGE IS
OF POOR QUALITY

TIME	NOF VAL	1	2	3	4	5	6	7	8	GN/C	RETA	POS
1.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	15.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	13.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.0	12.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.0	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.0	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.0	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.0	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11.0	11.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13.0	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14.0	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.0	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.0	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.0	11.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.0	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.0	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.0	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.0	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ORIGINAL PAGE IS
OF POOR QUALITY

TIME	NOM VAL	1	2	3	4	5	6	7	8	BETA	POS
50.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
51.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
52.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
53.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
54.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
55.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
56.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
57.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
58.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
59.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
60.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
61.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
62.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
63.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
64.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
65.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
66.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
67.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
68.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
69.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
70.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
71.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
72.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
73.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
74.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
75.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
76.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
77.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
78.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
79.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
80.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
81.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
82.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
83.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
84.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
85.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
86.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
87.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
88.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
89.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
90.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
91.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
92.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
93.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
94.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
95.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
96.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
97.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
98.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2
99.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.2

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F-94

ONE OF FOUR QUALITY

3
Y

TIME	LOC VAL	1	2	3	4	5	6	7	8	BETA	POS
285.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	-1.8	-2.0
295.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	-1.9	-2.0
305.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	-1.9	-2.0
315.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	-1.9	-2.0
325.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	-1.9	-2.1
335.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.0	-2.1
345.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.0	-2.1
355.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	-2.0	-2.1
365.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	-2.0	-2.1
375.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	-2.0	-2.1
385.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	-2.0	-2.2
395.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	-2.1	-2.2
405.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	-2.1	-2.2
415.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	-2.1	-2.2
425.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	-2.1	-2.2
435.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	-2.2	-2.3
445.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	-2.2	-2.3
455.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	-2.2	-2.3
465.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	-2.3
475.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	-2.4
485.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	-2.4
495.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	-2.4	-2.5
505.0	-2.5	.0	.0	.0	.0	.0	.0	.0	.0	-2.4	-2.5
515.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	-2.4	-2.6
525.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	-2.5	-2.6
535.0	-2.7	.0	.0	.0	.0	.0	.0	.0	.0	-2.6	-2.7
545.0	-2.8	.0	.0	.0	.0	.0	.0	.0	.0	-2.6	-2.8
555.0	-2.9	.0	.0	.0	.0	.0	.0	.0	.0	-2.7	-2.9
565.0	-3.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.8	-3.0
										-2.9	-3.2

ORIGINAL COPY
OF [illegible]

TIME	NOP VAL	GN/C								BETA NEG							
		1	2	3	4	5	6	7	8								
285.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.8	.0	.0	.0	.0	.0	.0
295.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.9	.0	.0	.0	.0	.0	.0
305.0	-1.9	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.9	.0	.0	.0	.0	.0	.0
315.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-1.9	.0	.0	.0	.0	.0	.0
325.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.0	.0	.0	.0	.0	.0	.0
335.0	-2.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.0	.0	.0	.0	.0	.0	.0
345.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	.0	.0	.0	.0	.0	.0
355.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	.0	.0	.0	.0	.0	.0
365.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	.0	.0	.0	.0	.0	.0
375.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	.0	.0	.0	.0	.0	.0
385.0	-2.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.1	.0	.0	.0	.0	.0	.0
395.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.2	.0	.0	.0	.0	.0	.0
405.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.2	.0	.0	.0	.0	.0	.0
415.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.2	.0	.0	.0	.0	.0	.0
425.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.2	.0	.0	.0	.0	.0	.0
435.0	-2.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	-2.2	.0	.0	.0	.0	.0	.0
445.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.2	.0	.0	.0	.0	.0	.0
455.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	.0	.0	.0	.0	.0	.0
465.0	-2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	.0	.0	.0	.0	.0	.0
475.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.3	.0	.0	.0	.0	.0	.0
485.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.4	.0	.0	.0	.0	.0	.0
495.0	-2.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.4	.0	.0	.0	.0	.0	.0
505.0	-2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.4	.0	.0	.0	.0	.0	.0
515.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.5	.0	.0	.0	.0	.0	.0
525.0	-2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.6	.0	.0	.0	.0	.0	.0
535.0	-2.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.6	.0	.0	.0	.0	.0	.0
545.0	-2.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.7	.0	.0	.0	.0	.0	.0
555.0	-2.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.8	.0	.0	.0	.0	.0	.0
565.0	-3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-2.9	.0	.0	.0	.0	.0	.0

(Reverse Blank)
F.9)

APPENDIX G—MISSION 3A DISPERSION ANALYSIS TABULAR DATA

ORIGINAL PAGE IS
OF POOR QUALITY

9
Y

PROFUSION															AHI	NEG
LINE	NOM	VAL	1	2	3	4	5	6	7	8	9	10	11			
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4	3.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	4.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6	5.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7	6.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	7.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9	8.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10	9.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12	11.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18	17.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19	18.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20	19.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21	20.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
22	21.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
23	22.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
24	23.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25	24.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
26	25.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
27	26.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
28	27.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
29	28.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
30	29.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
31	30.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
32	31.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
33	32.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
34	33.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
35	34.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
36	35.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
37	36.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
38	37.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
39	38.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
40	39.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
41	40.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
42	41.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
43	42.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
44	43.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
45	44.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
46	45.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
47	46.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
48	47.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
49	48.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
50	49.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

TIME	WOM VAL	PROPULSION										ANG	POS	
		1	2	3	4	5	6	7	8	9	10	11		
50.0	1.0	-3	-0	-3	-1	-0	-0	-0	-0	-0	-0	-0	7	2.2
51.0	1.7	-3	-0	-3	-2	-0	-0	-0	-0	-0	-0	-0	8	2.3
52.0	1.9	-4	-0	-1	-2	-0	-0	-0	-0	-0	-0	-0	8	2.5
53.0	2.0	-4	-0	-1	-2	-0	-0	-0	-0	-0	-0	-0	9	2.6
54.0	2.1	-4	-0	-1	-2	-0	-0	-0	-0	-0	-0	-0	9	2.8
55.0	2.2	-4	-0	-1	-2	-0	-0	-0	-0	-0	-0	-0	9	3.0
56.0	2.3	-5	-0	-1	-2	-0	-0	-0	-0	-0	-0	-0	10	3.1
57.0	2.5	-5	-0	-1	-2	-0	-0	-0	-0	-0	-0	-0	10	3.3
58.0	2.6	-5	-0	-1	-2	-0	-0	-0	-0	-0	-0	-0	10	3.5
59.0	2.9	-6	-0	-1	-3	-0	-0	-0	-0	-0	-0	-0	11	3.8
60.0	3.1	-6	-0	-1	-3	-0	-0	-0	-0	-0	-0	-0	11	4.0
61.0	3.3	-7	-0	-1	-3	-0	-0	-0	-0	-0	-0	-0	12	4.3
62.0	3.5	-7	-0	-1	-3	-0	-0	-0	-0	-0	-0	-0	12	4.5
63.0	3.7	-7	-0	-1	-3	-0	-0	-0	-0	-0	-0	-0	13	4.8
64.0	4.0	-9	-0	-1	-4	-0	-0	-0	-0	-0	-0	-0	13	5.2
65.0	4.3	-9	-0	-1	-4	-0	-0	-0	-0	-0	-0	-0	13	5.6
66.0	4.6	-10	-0	-1	-5	-0	-0	-0	-0	-0	-0	-0	14	6.1
67.0	5.0	-11	-0	-2	-5	-0	-0	-0	-0	-0	-0	-0	14	6.5
68.0	5.3	-12	-0	-2	-6	-0	-0	-0	-0	-0	-0	-0	15	7.1
69.0	5.4	-14	-0	-2	-6	-0	-0	-0	-0	-0	-0	-0	15	7.7
70.0	5.8	-15	-0	-2	-7	-0	-0	-0	-0	-0	-0	-0	16	8.3
71.0	6.3	-17	-0	-2	-7	-0	-0	-0	-0	-0	-0	-0	16	9.0
72.0	6.4	-19	-0	-2	-8	-0	-0	-0	-0	-0	-0	-0	17	9.8
73.0	7.5	-21	-0	-3	-9	-0	-0	-0	-0	-0	-0	-0	17	10.7
74.0	8.1	-23	-0	-3	-9	-0	-0	-0	-0	-0	-0	-0	18	11.6
75.0	8.6	-25	-0	-3	-10	-0	-0	-0	-0	-0	-0	-0	18	12.7
76.0	9.6	-27	-0	-3	-11	-0	-0	-0	-0	-0	-0	-0	19	13.8
77.0	10.5	-30	-0	-4	-12	-0	-0	-0	-0	-0	-0	-0	19	15.0
78.0	11.4	-32	-0	-4	-13	-0	-0	-0	-0	-0	-0	-0	20	16.3
79.0	12.4	-35	-0	-5	-14	-0	-0	-0	-0	-0	-0	-0	20	17.7
80.0	13.5	-38	-0	-5	-15	-0	-0	-0	-0	-0	-0	-0	21	19.2
81.0	14.7	-41	-0	-5	-16	-0	-0	-0	-0	-0	-0	-0	21	20.7
82.0	16.0	-45	-0	-6	-17	-0	-0	-0	-0	-0	-0	-0	22	22.4
83.0	17.4	-48	-0	-6	-18	-0	-0	-0	-0	-0	-0	-0	22	24.2
84.0	18.8	-51	-0	-6	-19	-0	-0	-0	-0	-0	-0	-0	23	26.0
85.0	20.3	-55	-0	-6	-20	-0	-0	-0	-0	-0	-0	-0	23	28.0
86.0	21.9	-58	-0	-7	-22	-0	-0	-0	-0	-0	-0	-0	24	30.0
87.0	23.6	-61	-0	-7	-23	-0	-0	-0	-0	-0	-0	-0	24	32.2
88.0	25.4	-65	-0	-7	-24	-0	-0	-0	-0	-0	-0	-0	25	34.4
89.0	27.3	-69	-0	-8	-25	-0	-0	-0	-0	-0	-0	-0	25	36.8
90.0	29.3	-73	-0	-8	-27	-0	-0	-0	-0	-0	-0	-0	26	39.2
91.0	31.3	-77	-0	-8	-28	-0	-0	-0	-0	-0	-0	-0	26	41.8
92.0	33.5	-80	-0	-9	-29	-0	-0	-0	-0	-0	-0	-0	27	44.4
93.0	35.7	-84	-0	-9	-31	-0	-0	-0	-0	-0	-0	-0	27	47.1
94.0	38.1	-88	-0	-9	-32	-0	-0	-0	-0	-0	-0	-0	28	49.9
95.0	40.5	-92	-0	-10	-33	-0	-0	-0	-0	-0	-0	-0	28	52.8
96.0	43.2	-95	-0	-10	-34	-0	-0	-0	-0	-0	-0	-0	29	55.8
97.0	45.6	-99	-0	-11	-36	-0	-0	-0	-0	-0	-0	-0	29	58.9
98.0	48.1	-103	-0	-11	-37	-0	-0	-0	-0	-0	-0	-0	30	62.0
99.0	51.1	-106	-0	-11	-38	-0	-0	-0	-0	-0	-0	-0	30	65.2

ORIGINAL RECORD
OF POOR QUALITY

TIME	NON VAL	POPULATION										AMT	NEG		
		1	2	3	4	5	6	7	8	9	10			11	
50.0	1.6	.4	.0	.3	.1	.0	.0	.0	.0	.0	.0	.5	.7	2.2	.9
51.0	1.7	.4	.0	.0	.1	.0	.0	.0	.0	.0	.0	.6	.8	2.3	1.0
52.0	1.8	.5	.0	.1	.1	.0	.0	.0	.0	.0	.0	.6	.8	2.5	1.0
53.0	2.0	.5	.0	.1	.1	.0	.0	.0	.0	.0	.0	.7	.9	2.6	1.1
54.0	2.1	.5	.0	.1	.2	.1	.0	.0	.0	.0	.0	.7	.9	2.8	1.2
55.0	2.2	.5	.0	.1	.2	.1	.0	.0	.0	.0	.0	.8	.9	3.0	1.3
56.0	2.3	.6	.0	.1	.2	.1	.0	.0	.0	.0	.0	.8	1.0	3.1	1.4
57.0	2.5	.6	.0	.1	.2	.1	.0	.0	.0	.0	.0	.9	1.0	3.3	1.5
58.0	2.6	.7	.0	.1	.2	.1	.0	.0	.0	.0	.0	.9	1.1	3.5	1.6
59.0	2.6	.7	.0	.1	.2	.1	.0	.0	.0	.0	.0	1.0	1.1	3.8	1.7
60.0	2.9	.8	.0	.1	.2	.1	.0	.0	.0	.0	.0	1.1	1.1	4.0	1.8
61.0	3.1	1.0	.0	.1	.3	.1	.0	.0	.0	.0	.0	1.2	1.2	4.3	1.9
62.0	3.3	1.0	.0	.1	.3	.1	.0	.0	.0	.0	.0	1.3	1.2	4.5	2.1
63.0	3.5	1.1	.0	.1	.3	.1	.0	.0	.0	.0	.0	1.4	1.3	4.9	2.2
64.0	3.7	1.2	.0	.1	.3	.1	.0	.0	.0	.0	.0	1.5	1.3	5.2	2.4
65.0	4.0	1.3	.0	.1	.3	.1	.0	.0	.0	.0	.0	1.6	1.4	5.5	2.6
66.0	4.3	1.5	.0	.1	.4	.1	.0	.0	.0	.0	.0	1.8	1.5	6.1	2.8
67.0	4.6	1.7	.0	.1	.4	.1	.0	.0	.0	.0	.0	1.9	1.6	6.5	3.0
68.0	5.0	1.8	.0	.2	.5	.2	.0	.0	.0	.0	.0	2.1	1.7	7.1	3.3
69.0	5.4	2.0	.0	.2	.5	.2	.0	.0	.0	.0	.0	2.3	1.8	7.7	3.6
70.0	5.6	2.2	.0	.2	.5	.2	.0	.0	.0	.0	.0	2.5	2.0	8.3	3.9
71.0	6.3	2.4	.0	.2	.6	.2	.0	.0	.0	.0	.0	2.7	2.1	9.0	4.2
72.0	6.9	2.7	.0	.2	.7	.2	.0	.0	.0	.0	.0	3.0	2.3	9.8	4.6
73.0	7.5	2.9	.0	.3	.8	.3	.0	.0	.0	.0	.0	3.2	2.5	10.7	5.0
74.0	8.1	3.2	.0	.3	.8	.3	.1	.0	.0	.0	.0	3.5	2.7	11.6	5.4
75.0	8.6	3.5	.0	.3	.9	.3	.1	.0	.0	.0	.0	3.8	2.9	12.7	5.9
76.0	9.0	3.8	.0	.3	.9	.3	.1	.0	.0	.0	.0	4.1	3.2	13.8	6.6
77.0	10.5	4.1	.0	.4	1.0	.3	.1	.0	.0	.0	.0	4.5	3.5	15.0	7.0
78.0	12.4	4.5	.0	.4	1.1	.4	.1	.0	.0	.0	.0	4.9	3.8	16.3	7.7
79.0	12.4	4.9	.0	.4	1.2	.4	.1	.0	.0	.0	.0	5.2	4.1	17.7	8.4
80.0	13.5	5.2	.0	.4	1.3	.5	.1	.0	.0	.0	.0	5.6	4.4	19.2	9.1
81.0	14.7	5.5	.0	.5	1.4	.5	.1	.0	.0	.0	.0	6.0	4.8	20.7	10.0
82.0	16.0	5.9	.0	.5	1.5	.5	.1	.0	.0	.0	.0	6.4	5.1	22.4	10.9
83.0	17.4	6.2	.0	.5	1.6	.6	.1	.0	.0	.0	.0	6.8	5.5	24.2	11.8
84.0	18.8	6.6	.0	.6	1.7	.6	.1	.0	.0	.0	.0	7.2	5.9	26.0	12.9
85.0	20.3	7.0	.0	.6	1.8	.6	.1	.0	.0	.0	.0	7.7	6.3	28.0	14.0
86.0	21.9	7.4	.0	.6	1.9	.7	.1	.0	.0	.0	.0	8.1	6.7	30.0	15.2
87.0	23.6	7.8	.0	.7	2.0	.7	.1	.0	.0	.0	.0	8.6	7.1	32.2	16.5
88.0	25.4	8.2	.0	.7	2.2	.7	.1	.0	.0	.0	.0	9.0	7.5	34.4	17.9
89.0	27.3	8.6	.0	.7	2.3	.8	.1	.0	.0	.0	.0	9.5	7.9	36.8	19.3
90.0	29.3	9.0	.0	.8	2.4	.8	.1	.0	.0	.0	.0	10.0	8.4	39.2	20.9
91.0	31.3	9.5	.0	.8	2.5	.8	.1	.0	.0	.0	.0	10.4	8.9	41.8	22.5
92.0	33.5	9.9	.0	.8	2.6	.9	.2	.0	.0	.0	.0	10.9	9.3	44.4	24.2
93.0	35.7	10.1	.0	.9	2.6	.9	.2	.0	.0	.0	.0	11.4	9.8	47.1	25.9
94.0	38.1	10.5	.0	.9	2.9	.9	.2	.0	.0	.0	.0	11.9	10.3	49.9	27.8
95.0	40.5	10.9	.0	.9	3.0	.9	.2	.0	.0	.0	.0	12.3	10.7	52.8	29.9
96.0	43.0	11.2	.0	1.0	3.1	.9	.2	.0	.0	.0	.0	12.8	11.2	55.8	31.8
97.0	45.6	11.6	.0	1.1	3.2	.9	.2	.0	.0	.0	.0	13.3	11.7	58.9	33.9
98.0	48.3	11.9	.0	1.1	3.3	.9	.2	.0	.0	.0	.0	13.7	12.2	62.0	36.1
99.0	51.1	12.2	.0	1.1	3.5	.9	.2	.0	.0	.0	.0	14.2	12.7	65.2	38.4

AMT POS

TIME	MON	VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522</
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POPULATION

TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11	INT	PDS
285.0	256.3	14.2	4.2	1.7	1.6	.0	2.4	-2.5	2.2	.3	-6.0	.2	71.5	59.2
295.0	258.4	14.6	4.3	1.7	1.5	.0	2.5	-2.5	2.2	.4	-6.2	.3	72.7	60.0
305.0	260.4	15.0	4.3	1.7	1.4	.0	2.5	-2.5	2.3	.4	-6.3	.3	73.8	61.8
315.0	262.5	15.3	4.4	.9	1.3	.0	2.6	-2.5	2.3	.4	-6.5	.3	75.0	63.6
325.0	264.5	15.7	4.4	.9	1.2	.0	2.6	-2.6	2.4	.4	-6.6	.3	76.1	65.3
335.0	266.6	16.0	4.4	.9	1.1	.0	2.6	-2.6	2.4	.4	-6.7	.3	77.2	67.1
345.0	268.9	16.3	4.5	.9	1.1	.0	2.8	-2.7	2.5	.4	-6.9	.3	78.3	68.9
355.0	271.3	16.6	4.5	.9	1.0	.0	2.8	-2.8	2.6	.4	-7.0	.3	79.4	70.6
365.0	273.9	16.9	4.6	.9	1.0	.0	2.9	-2.7	2.6	.4	-7.2	.3	80.5	72.3
375.0	276.7	17.2	4.7	.9	1.0	.0	3.0	-2.7	2.8	.5	-7.3	.3	81.7	74.0
385.0	279.8	17.5	4.7	.9	.9	.0	3.0	-2.7	2.9	.5	-7.5	.3	83.0	75.7
395.0	283.1	17.8	4.8	.8	.8	.0	3.1	-2.7	3.1	.5	-7.7	.3	84.3	77.4
405.0	287.3	18.1	4.9	.8	.7	.0	3.2	-2.8	3.3	.5	-7.9	.3	85.7	79.1
415.0	291.8	18.4	5.0	.8	.7	.0	3.3	-2.8	3.6	.5	-8.1	.3	87.1	80.8
425.0	297.2	18.7	5.1	.8	.7	.0	3.4	-2.9	3.9	.5	-8.3	.4	88.5	82.5
435.0	303.0	19.0	5.2	.8	.6	.0	3.5	-2.9	4.2	.5	-8.6	.4	90.0	84.2
445.0	309.9	19.3	5.4	.8	.6	.0	3.6	-3.0	4.7	.5	-8.9	.4	91.5	85.9
455.0	318.1	19.6	5.5	.8	.6	.0	3.7	-3.1	5.3	.5	-9.2	.4	92.8	87.6
465.0	327.4	19.9	5.8	.8	.7	.0	3.8	-3.1	6.0	.5	-9.5	.4	94.9	89.3
475.0	338.9	20.2	6.0	.8	.7	.0	4.0	-3.2	6.9	.5	-9.9	.4	97.3	91.0
485.0	352.3	20.5	6.3	.8	.9	.0	4.1	-3.2	8.0	.5	-10.1	.4	99.7	92.7
495.0	368.1	19.9	6.7	1.0	.9	.0	4.2	-3.3	9.3	.5	-10.3	.4	102.1	94.4
505.0	386.6	19.6	7.1	1.2	1.1	.0	4.4	-3.4	10.9	.5	-10.7	.5	104.5	96.1
515.0	408.3	19.0	7.6	1.3	1.5	.0	4.5	-3.4	12.7	.5	-11.1	.5	106.9	97.8
525.0	433.6	18.2	8.1	1.5	2.5	.0	4.6	-3.5	14.9	.5	-11.4	.5	109.3	99.5
535.0	463.0	17.0	8.8	1.7	3.2	.0	4.6	-3.6	17.4	.5	-11.8	.5	111.5	101.2
545.0	496.8	15.4	9.5	2.0	4.0	.0	4.7	-3.6	20.1	.5	-12.1	.5	113.6	102.9
555.0	535.2	13.8	10.3	2.3	5.0	.0	4.7	-3.7	23.0	.5	-12.3	.5	115.5	104.6
565.0	578.4	11.0	11.2	2.6	6.0	.0	4.7	-3.7	25.8	.5	-12.7	.5	117.1	106.3
							4.7	-3.7	25.8	.5	-12.7	.5	118.4	108.0

ORIGINAL DATA
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

HERO/ENVIRON										BMT		NEG	
TIME	NON VAL	1	2	3	4	5	6	7	8				
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0

ORIGINAL PAGE
OF POOR QUALITY

AERO/ENVIRON												AHT	NIG
TIME	MON VAL	1	2	3	4	5	6	7	8	9	10	11	12
50.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
51.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
56.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
58.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
59.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
61.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
63.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
64.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
66.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
68.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
69.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
73.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.0	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78.0	12.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.0	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.0	14.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.0	17.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.0	19.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.0	21.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.0	22.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.0	27.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89.0	32.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.0	35.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
91.0	38.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.0	42.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93.0	45.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
94.0	49.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95.0	53.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
96.0	56.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.0	61.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
98.0	65.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99.0	69.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.0	74.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

MM ? POS

MM ? POS

MM ? POS

AERO/ENVIRON																							AHI POS	
TIME	NOV	VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
285.0	256.3	-2.5	24.5	51.4	-2.3	-2.1	-2.1	.9	-3.3	8.3	71.5	59.2	327.0	197.1										
295.0	258.4	-2.5	24.9	52.3	-2.4	-2.1	-2.1	.9	-3.3	8.3	72.7	60.0	331.1	198.4										
305.0	260.4	-2.5	25.3	53.1	-2.4	-2.1	-2.1	.9	-3.3	8.2	73.8	60.8	334.3	199.6										
315.0	262.5	-2.5	25.7	53.9	-2.4	-2.2	-2.2	.9	-3.3	8.2	75.0	61.6	337.6	200.9										
325.0	264.5	-2.5	26.1	54.7	-2.5	-2.2	-2.2	.9	-3.4	8.2	76.1	62.5	340.6	202.2										
335.0	266.6	-2.5	26.4	55.5	-2.5	-2.2	-2.2	1.0	-3.4	8.1	77.2	63.1	343.8	203.6										
345.0	268.9	-2.5	26.8	56.3	-2.5	-2.2	-2.2	1.0	-3.4	8.1	78.3	63.8	347.2	205.1										
355.0	271.3	-2.5	27.2	57.1	-2.5	-2.3	-2.3	1.0	-3.5	8.1	79.4	64.6	350.7	206.7										
365.0	273.9	-2.5	27.5	57.9	-2.6	-2.3	-2.3	1.0	-3.5	8.1	80.5	65.4	354.4	208.5										
375.0	276.7	-2.5	27.9	58.6	-2.6	-2.4	-2.4	1.0	-3.6	8.0	81.7	66.2	358.4	210.5										
385.0	279.4	-2.5	28.4	59.7	-2.6	-2.4	-2.4	1.0	-3.6	8.0	83.0	67.1	362.8	212.7										
395.0	283.3	-2.5	28.8	60.6	-2.7	-2.4	-2.4	1.0	-3.7	7.9	84.3	68.0	367.6	215.3										
405.0	287.3	-2.5	29.3	61.7	-2.7	-2.4	-2.4	1.1	-3.8	7.9	85.7	69.1	371.0	218.2										
415.0	291.8	-2.5	29.8	62.8	-2.8	-2.5	-2.5	1.1	-3.9	7.9	87.3	70.2	374.1	221.0										
425.0	297.0	-2.5	30.3	64.3	-2.8	-2.5	-2.5	1.1	-4.0	7.8	89.0	71.5	385.9	225.5										
435.0	303.0	-2.6	30.9	65.3	-2.9	-2.6	-2.6	1.1	-4.2	7.8	90.8	72.8	393.7	230.1										
445.0	309.9	-2.6	31.6	66.7	-2.9	-2.6	-2.6	1.1	-4.3	7.7	92.9	74.4	402.1	235.6										
455.0	318.1	-2.7	32.3	68.2	-3.0	-2.7	-2.7	1.2	-4.6	7.6	94.9	76.0	413.0	242.0										
465.0	327.6	-2.8	33.0	69.6	-3.1	-2.7	-2.7	1.2	-4.9	7.6	97.3	77.9	424.9	249.8										
475.0	338.9	-2.8	33.8	71.5	-3.1	-2.8	-2.8	1.2	-5.2	7.5	99.7	79.9	438.6	259.1										
485.0	352.3	-3.0	34.5	73.1	-3.2	-2.9	-2.9	1.3	-5.6	7.4	102.1	82.0	454.4	270.3										
495.0	360.1	-3.1	35.2	74.9	-3.3	-3.0	-3.0	1.3	-6.2	7.3	104.5	84.2	472.6	283.9										
505.0	368.6	-3.3	35.9	76.3	-3.4	-3.1	-3.1	1.3	-6.8	7.2	106.9	86.3	493.5	300.3										
515.0	408.3	-3.6	36.5	77.9	-3.4	-3.1	-3.1	1.4	-7.5	7.1	109.3	88.4	517.6	319.9										
525.0	433.6	-3.9	36.9	79.2	-3.5	-3.2	-3.2	1.4	-9.3	7.0	111.5	90.5	545.2	343.1										
535.0	463.0	-4.3	37.2	80.3	-3.5	-3.2	-3.2	1.4	-7.2	6.9	113.6	92.5	576.8	370.5										
545.0	496.8	-4.7	37.4	81.1	-3.6	-3.3	-3.3	1.4	-10.1	6.8	115.5	94.4	612.2	402.4										
555.0	535.2	-5.2	37.3	81.6	-3.6	-3.3	-3.3	1.4	-11.2	6.7	117.1	96.1	652.3	439.1										
565.0	578.4	-5.7	37.0	81.9	-3.6	-3.3	-3.3	1.4	-12.2	6.6	118.4	97.7	695.8	480.7										

ORIGINAL PAGE IS
OF POOR QUALITY

AMH NEG

AMH NEG

AMH NEG

ORIGINAL PAGE 10
OF FOUR QUARTS.

MASS PROP										AMI POS	
TIME	QOM VAL	1	2	3	4	5	6	7	8	9	
1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ORIGINAL PAGE IS
OF POOR QUALITY.

9
Y

TIME	MON VAL	MASS PROP	8	9	AHT	NEG
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	0.0	0.0	0.0	0.0	0.0	0.0
4.0	0.0	0.0	0.0	0.0	0.0	0.0
5.0	0.0	0.0	0.0	0.0	0.0	0.0
6.0	0.0	0.0	0.0	0.0	0.0	0.0
7.0	0.0	0.0	0.0	0.0	0.0	0.0
8.0	0.0	0.0	0.0	0.0	0.0	0.0
9.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0
11.0	0.0	0.0	0.0	0.0	0.0	0.0
12.0	0.0	0.0	0.0	0.0	0.0	0.0
13.0	0.0	0.0	0.0	0.0	0.0	0.0
14.0	0.0	0.0	0.0	0.0	0.0	0.0
15.0	0.0	0.0	0.0	0.0	0.0	0.0
16.0	0.0	0.0	0.0	0.0	0.0	0.0
17.0	0.0	0.0	0.0	0.0	0.0	0.0
18.0	0.0	0.0	0.0	0.0	0.0	0.0
19.0	0.0	0.0	0.0	0.0	0.0	0.0
20.0	0.0	0.0	0.0	0.0	0.0	0.0
21.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	0.0	0.0	0.0	0.0	0.0	0.0
23.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	0.0	0.0	0.0	0.0	0.0	0.0
25.0	0.0	0.0	0.0	0.0	0.0	0.0
26.0	0.0	0.0	0.0	0.0	0.0	0.0
27.0	0.0	0.0	0.0	0.0	0.0	0.0
28.0	0.0	0.0	0.0	0.0	0.0	0.0
29.0	0.0	0.0	0.0	0.0	0.0	0.0
30.0	0.0	0.0	0.0	0.0	0.0	0.0
31.0	0.0	0.0	0.0	0.0	0.0	0.0
32.0	0.0	0.0	0.0	0.0	0.0	0.0
33.0	0.0	0.0	0.0	0.0	0.0	0.0
34.0	0.0	0.0	0.0	0.0	0.0	0.0
35.0	0.0	0.0	0.0	0.0	0.0	0.0
36.0	0.0	0.0	0.0	0.0	0.0	0.0
37.0	0.0	0.0	0.0	0.0	0.0	0.0
38.0	0.0	0.0	0.0	0.0	0.0	0.0
39.0	0.0	0.0	0.0	0.0	0.0	0.0
40.0	0.0	0.0	0.0	0.0	0.0	0.0
41.0	0.0	0.0	0.0	0.0	0.0	0.0
42.0	0.0	0.0	0.0	0.0	0.0	0.0
43.0	0.0	0.0	0.0	0.0	0.0	0.0
44.0	0.0	0.0	0.0	0.0	0.0	0.0
45.0	0.0	0.0	0.0	0.0	0.0	0.0
46.0	0.0	0.0	0.0	0.0	0.0	0.0
47.0	0.0	0.0	0.0	0.0	0.0	0.0
48.0	0.0	0.0	0.0	0.0	0.0	0.0
49.0	0.0	0.0	0.0	0.0	0.0	0.0

ORIGINAL PAGE IS
OF POOR QUALITY

MASS PROP											ANT POS	
TIME	NOH VAL	1	2	3	4	5	6	7	8	9		
50.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.2
51.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.3
52.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.5
53.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.6
54.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.8
55.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	3.0
56.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	3.1
57.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	3.3
58.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	3.5
59.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3.8
60.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	4.0
61.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	4.3
62.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	4.5
63.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	4.9
64.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	5.2
65.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	5.6
66.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	6.1
67.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	6.5
68.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	7.1
69.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	7.7
70.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	8.3
71.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	9.0
72.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	9.8
73.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	10.7
74.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	11.6
75.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	12.7
76.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	13.8
77.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	15.0
78.0	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9	16.3
79.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	17.7
80.0	13.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	19.2
81.0	14.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	20.7
82.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4	22.4
83.0	17.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	24.2
84.0	18.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	26.0
85.0	20.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	28.0
86.0	21.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	30.0
87.0	23.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	32.2
88.0	25.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	34.4
89.0	27.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	36.8
90.0	29.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	39.2
91.0	31.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	41.8
92.0	33.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	44.4
93.0	35.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	47.1
94.0	38.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.9	49.9
95.0	40.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.3	52.8
96.0	43.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.8	55.8
97.0	45.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3	58.9
98.0	48.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.7	62.0
99.0	51.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.2	65.2

ORIGINAL PAGE IS
OF POOR QUALITY

MASS PROP

TIME	NOM VAL	1	2	3	4	5	6	7	8	9	AHT	PDS
285.0	256.3	-2.0	.8	.0	.0	.5	.2	-1.0	.0	.0	71.5	59.2
295.0	258.4	-2.0	.8	.0	.0	.5	.2	-1.0	.0	.0	72.7	60.0
305.0	260.4	-2.0	.8	.0	.0	.5	.2	-1.0	.0	.0	73.8	60.9
315.0	262.5	-2.0	.8	.0	.0	.5	.2	-1.0	.0	.0	75.0	61.6
325.0	264.5	-2.0	.8	.0	.0	.5	.2	-1.0	.0	.0	76.1	62.3
335.0	266.6	-2.1	.8	.0	.0	.5	.2	-1.1	.0	.0	77.2	63.1
345.0	268.9	-2.1	.8	.0	.0	.5	.2	-1.1	.0	.0	78.3	63.8
355.0	271.3	-2.1	.8	.0	.0	.5	.2	-1.1	.0	.0	79.4	64.6
365.0	273.4	-2.2	.8	.0	.0	.5	.2	-1.1	.0	.0	80.5	65.4
375.0	276.7	-2.2	.8	.0	.0	.5	.2	-1.1	.0	.0	81.7	66.2
385.0	279.6	-2.3	.8	.0	.0	.5	.2	-1.2	.0	.0	83.0	67.1
395.0	283.3	-2.4	.8	.0	.0	.5	.2	-1.2	.0	.0	84.3	68.0
405.0	287.3	-2.5	.8	.0	.0	.5	.2	-1.2	.0	.0	85.7	69.1
415.0	291.8	-2.6	.8	.0	.0	.5	.2	-1.2	.0	.0	87.3	70.2
425.0	297.0	-2.8	.8	.0	.0	.5	.2	-1.3	.0	.0	89.0	71.5
435.0	303.0	-3.0	.8	.0	.0	.5	.2	-1.3	.0	.0	90.8	72.9
445.0	309.9	-3.2	.9	.0	.0	.5	.2	-1.3	.0	.0	92.8	74.4
455.0	318.1	-3.5	.9	.0	.0	.5	.2	-1.4	.0	.0	94.9	76.0
465.0	327.6	-3.8	.9	.0	.0	.5	.2	-1.4	.0	.0	97.3	77.9
475.0	338.9	-4.3	.9	.0	.0	.5	.2	-1.5	.0	.0	99.7	79.9
485.0	352.3	-4.8	1.0	.0	.0	.5	.2	-1.5	.0	.0	102.1	82.0
495.0	368.1	-5.5	1.0	.0	.0	.5	.2	-1.5	.0	.0	104.5	84.2
505.0	386.6	-6.3	1.1	.0	.0	.5	.2	-1.6	.0	.0	106.9	86.3
515.0	408.3	-7.3	1.1	.0	.0	.5	.2	-1.6	.0	.0	109.3	88.4
525.0	433.6	-8.5	1.2	.0	.0	.5	.2	-1.7	.0	.0	111.5	90.5
535.0	463.0	-9.8	1.3	.0	.0	.5	.2	-1.7	.0	.0	113.6	92.5
545.0	496.4	-11.7	1.3	.0	.0	.5	.2	-1.7	.0	.0	115.5	94.4
555.0	535.2	-12.9	1.4	.0	.0	.5	.2	-1.7	.0	.0	117.1	96.1
565.0	578.4	-14.6	1.5	.0	.0	.5	.2	-1.7	.0	.0	118.4	97.7

MASS GROUP

TIME	NOM VAL	1	2	3	4	5	6	7	8	9	AMT	NES
285.0	256.3	2.1	-7	0	0	-5	-4.9	0	0	0	59.2	327.9
295.0	258.4	2.1	-7	0	0	-5	-5.0	0	0	0	60.7	331.1
305.0	260.4	2.1	-7	0	0	-5	-5.0	1.0	0	0	60.8	334.3
315.0	262.5	2.1	-8	0	0	-5	-5.1	1.0	0	0	61.6	337.4
325.0	264.5	2.1	-8	0	0	-5	-5.1	1.0	0	0	62.3	340.6
335.0	266.6	2.2	-8	0	0	-5	-5.2	1.0	0	0	63.1	343.8
345.0	268.9	2.2	-8	0	0	-5	-5.2	1.0	0	0	63.8	347.2
355.0	271.3	2.2	-8	0	0	-6	-5.3	1.1	0	0	65.4	350.7
365.0	273.7	2.3	-8	0	0	-6	-5.3	1.1	0	0	65.4	354.8
375.0	276.7	2.4	-6	0	0	-6	-5.3	1.1	0	0	66.2	358.8
385.0	279.8	2.4	-6	0	0	-6	-5.4	1.1	0	0	67.1	362.8
395.0	283.1	2.5	-8	0	0	-6	-5.5	1.1	0	0	68.0	367.6
405.0	287.3	2.6	-8	0	0	-6	-5.5	1.1	0	0	69.1	373.0
415.0	291.0	2.7	-8	0	0	-6	-5.6	1.2	0	0	70.2	379.1
425.0	297.0	2.9	-8	0	0	-6	-5.7	1.2	0	0	71.5	385.9
435.0	303.0	3.1	-8	0	0	-7	-5.8	1.2	0	0	72.9	393.7
445.0	309.9	3.4	-8	0	0	-7	-5.8	1.3	0	0	74.4	402.7
455.0	318.1	3.7	-8	0	0	-7	-5.9	1.3	0	0	76.0	413.0
465.0	327.6	4.0	-9	0	0	-7	-6.1	1.3	0	0	77.9	424.9
475.0	339.9	4.5	-9	0	0	-7	-6.2	1.4	0	0	79.9	438.6
485.0	352.3	5.1	-9	0	0	-7	-6.3	1.4	0	0	82.0	456.4
495.0	368.1	5.8	-9	0	0	-8	-6.4	1.4	0	0	84.2	472.6
505.0	386.6	6.6	-10	0	0	-8	-6.5	1.5	0	0	85.3	493.5
515.0	408.3	7.7	-10	0	0	-8	-6.7	1.5	0	0	88.4	517.6
525.0	433.0	8.8	-11	0	0	-8	-6.8	1.5	0	0	90.5	545.2
535.0	463.0	10.2	-12	0	0	-8	-6.9	1.6	0	0	92.5	576.6
545.0	496.4	11.7	-12	0	0	-9	-7.0	1.6	0	0	94.8	612.2
555.0	535.2	14.3	-13	0	0	-9	-7.1	1.6	0	0	96.1	652.3
565.0	578.4	14.9	-14	0	0	-9	-7.1	1.6	0	0	97.7	696.8

ORIGINAL RECORD
OF POOR QUALITY

ORIGINAL RECORD OF POWER FACTOR

TIME	NOM VAL	GN/C										AHI	PGS
		1	2	3	4	5	6	7	8				
1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
27.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
29.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
31.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
32.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
33.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
34.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
35.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
36.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
37.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
38.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
39.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
40.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
41.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
42.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
43.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
44.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
45.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
46.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
47.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
48.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
49.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

ORIGINAL PAGE 13
OF POOP QUANT

TIME	MON VAL	GN/C										AHI	POS
		1	2	3	4	5	6	7	8	9	10		
50.0	1.6	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.2	3
51.0	1.7	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.3	1.0
52.0	1.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.5	1.0
53.0	2.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.6	1.1
54.0	2.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	2.5	1.2
55.0	2.2	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	3.0	1.3
56.0	2.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	3.1	1.4
57.0	2.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	3.3	1.5
58.0	2.8	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	3.5	1.6
59.0	2.8	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	3.8	1.7
60.0	2.9	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	4.0	1.8
61.0	3.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	4.3	1.9
62.0	3.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	4.5	2.1
63.0	3.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	4.9	2.2
64.0	3.7	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	5.2	2.4
65.0	4.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	5.6	2.6
66.0	4.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	6.1	2.8
67.0	4.6	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	6.5	3.0
68.0	5.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	7.1	3.3
69.0	5.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	7.7	3.6
70.0	5.8	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	8.3	3.9
71.0	6.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	9.0	4.2
72.0	6.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	9.8	4.6
73.0	7.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	10.7	5.0
74.0	8.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	11.6	5.4
75.0	8.8	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	12.7	5.9
76.0	9.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	13.8	6.4
77.0	10.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	15.0	7.0
78.0	11.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	16.3	7.7
79.0	12.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	17.7	8.4
80.0	13.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	19.2	9.1
81.0	14.7	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	20.7	10.0
82.0	16.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	22.9	10.9
83.0	17.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	24.2	11.8
84.0	18.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	26.0	12.9
85.0	20.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	28.0	14.0
86.0	21.9	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	30.0	15.2
87.0	23.7	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	32.2	16.5
88.0	25.4	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	34.9	17.9
89.0	27.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	36.8	19.3
90.0	29.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	39.2	20.9
91.0	31.3	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	41.9	22.5
92.0	33.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	44.4	24.2
93.0	35.7	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	47.1	25.9
94.0	38.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	50.3	27.8
95.0	40.5	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	52.9	29.8
96.0	43.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	55.8	31.8
97.0	45.6	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	58.9	33.9
98.0	48.1	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	62.3	36.1
99.0	51.0	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0	65.2	38.4

ORIGINAL DESIGN OF POOR QUALITY

TIME	NOM VAL	RN/C										AMI	NLS
		1	2	3	4	5	6	7	8	9	10		
50.0	1.6	0	0	0	0	0	0	0	0	0	0	0	0
51.0	1.7	0	0	0	0	0	0	0	0	0	0	0	0
52.0	1.8	0	0	0	0	0	0	0	0	0	0	0	0
53.0	2.0	0	0	0	0	0	0	0	0	0	0	0	0
54.0	2.1	0	0	0	0	0	0	0	0	0	0	0	0
55.0	2.2	0	0	0	0	0	0	0	0	0	0	0	0
56.0	2.3	0	0	0	0	0	0	0	0	0	0	0	0
57.0	2.4	0	0	0	0	0	0	0	0	0	0	0	0
58.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0
59.0	2.6	0	0	0	0	0	0	0	0	0	0	0	0
60.0	2.7	0	0	0	0	0	0	0	0	0	0	0	0
61.0	2.8	0	0	0	0	0	0	0	0	0	0	0	0
62.0	2.9	0	0	0	0	0	0	0	0	0	0	0	0
63.0	3.0	0	0	0	0	0	0	0	0	0	0	0	0
64.0	3.1	0	0	0	0	0	0	0	0	0	0	0	0
65.0	3.2	0	0	0	0	0	0	0	0	0	0	0	0
66.0	3.3	0	0	0	0	0	0	0	0	0	0	0	0
67.0	3.4	0	0	0	0	0	0	0	0	0	0	0	0
68.0	3.5	0	0	0	0	0	0	0	0	0	0	0	0
69.0	3.6	0	0	0	0	0	0	0	0	0	0	0	0
70.0	3.7	0	0	0	0	0	0	0	0	0	0	0	0
71.0	3.8	0	0	0	0	0	0	0	0	0	0	0	0
72.0	3.9	0	0	0	0	0	0	0	0	0	0	0	0
73.0	4.0	0	0	0	0	0	0	0	0	0	0	0	0
74.0	4.1	0	0	0	0	0	0	0	0	0	0	0	0
75.0	4.2	0	0	0	0	0	0	0	0	0	0	0	0
76.0	4.3	0	0	0	0	0	0	0	0	0	0	0	0
77.0	4.4	0	0	0	0	0	0	0	0	0	0	0	0
78.0	4.5	0	0	0	0	0	0	0	0	0	0	0	0
79.0	4.6	0	0	0	0	0	0	0	0	0	0	0	0
80.0	4.7	0	0	0	0	0	0	0	0	0	0	0	0
81.0	4.8	0	0	0	0	0	0	0	0	0	0	0	0
82.0	4.9	0	0	0	0	0	0	0	0	0	0	0	0
83.0	5.0	0	0	0	0	0	0	0	0	0	0	0	0
84.0	5.1	0	0	0	0	0	0	0	0	0	0	0	0
85.0	5.2	0	0	0	0	0	0	0	0	0	0	0	0
86.0	5.3	0	0	0	0	0	0	0	0	0	0	0	0
87.0	5.4	0	0	0	0	0	0	0	0	0	0	0	0
88.0	5.5	0	0	0	0	0	0	0	0	0	0	0	0
89.0	5.6	0	0	0	0	0	0	0	0	0	0	0	0
90.0	5.7	0	0	0	0	0	0	0	0	0	0	0	0
91.0	5.8	0	0	0	0	0	0	0	0	0	0	0	0
92.0	5.9	0	0	0	0	0	0	0	0	0	0	0	0
93.0	6.0	0	0	0	0	0	0	0	0	0	0	0	0
94.0	6.1	0	0	0	0	0	0	0	0	0	0	0	0
95.0	6.2	0	0	0	0	0	0	0	0	0	0	0	0
96.0	6.3	0	0	0	0	0	0	0	0	0	0	0	0
97.0	6.4	0	0	0	0	0	0	0	0	0	0	0	0
98.0	6.5	0	0	0	0	0	0	0	0	0	0	0	0
99.0	6.6	0	0	0	0	0	0	0	0	0	0	0	0
100.0	6.7	0	0	0	0	0	0	0	0	0	0	0	0

TIME	NOM VAL	1	2	3	4	5	6	7	8	GN/C	GMT	PDS
275.0	256.3	19.4	-2	17.4	-0	-24.5	.5	.2	-1	11.5	59.2	127.8
295.0	258.4	19.7	-2	17.7	.0	-24.7	.5	.2	-1	12.7	60.0	131.1
315.0	260.4	20.0	-2	18.1	.0	-25.3	.5	.3	-1	13.8	60.8	134.3
335.0	262.5	20.3	-2	18.4	.0	-25.6	.5	.3	-2	15.0	61.6	137.4
355.0	264.5	20.5	-2	18.6	.0	-25.9	.6	.3	-2	16.1	62.3	140.6
375.0	266.6	20.8	-2	18.9	.0	-26.2	.6	.3	-2	17.2	63.1	143.8
395.0	268.5	21.1	-2	19.2	.0	-26.6	.6	.3	-2	18.3	63.8	147.2
415.0	271.3	21.3	-2	19.5	.0	-26.9	.5	.3	-2	19.4	64.6	150.7
435.0	273.9	21.6	-2	19.8	.0	-27.3	.6	.3	-2	20.5	65.4	154.4
455.0	276.7	21.9	-2	20.1	.1	-27.6	.6	.3	-3	21.7	66.2	158.4
475.0	279.4	22.2	-2	20.5	.1	-28.0	.6	.3	-3	23.0	67.1	162.8
495.0	283.1	22.5	-2	20.8	.1	-28.5	.6	.3	-3	24.3	68.0	167.6
515.0	287.3	22.9	-2	21.2	.1	-28.9	.6	.3	-4	25.7	69.1	173.0
535.0	291.8	23.2	-2	21.6	.1	-29.5	.6	.3	-4	27.3	70.2	179.1
555.0	297.0	23.7	-2	22.1	.1	-30.0	.6	.3	-4	28.9	71.5	185.9
575.0	303.0	24.1	-2	22.6	.1	-30.6	.6	.3	-5	30.8	72.8	193.7
595.0	309.5	24.6	-2	23.1	.1	-31.3	.7	.3	-6	32.8	74.4	202.7
615.0	318.1	25.1	-2	23.7	.1	-32.1	.7	.3	-7	34.9	76.0	213.0
635.0	327.6	25.7	-2	24.4	.1	-32.9	.7	.3	-8	37.3	77.9	224.9
655.0	338.2	26.4	-2	25.1	.2	-33.8	.7	.3	-10	39.7	79.9	239.1
675.0	352.3	27.0	-2	25.7	.2	-34.8	.7	.3	-12	42.1	82.0	259.1
695.0	368.1	27.6	-2	26.4	.2	-35.8	.7	.4	-15	44.5	84.2	283.9
715.0	386.6	28.2	-2	27.0	.2	-36.8	.7	.4	-18	46.9	86.3	309.3
735.0	408.3	28.9	-2	27.7	.2	-37.7	.8	.4	-23	49.3	88.4	337.6
755.0	433.6	29.4	-2	28.2	.2	-38.6	.8	.4	-29	51.5	90.5	368.1
775.0	463.0	29.9	-2	28.7	.2	-39.5	.8	.4	-37	53.6	92.5	402.4
795.0	496.6	30.3	-2	29.1	.2	-40.2	.8	.4	-47	55.5	94.8	439.1
815.0	535.2	30.5	-2	29.3	.2	-40.9	.8	.4	-61	57.1	96.1	482.3
835.0	578.4	30.7	-3	29.4	.2	-41.3	.6	.4	-78	58.4	97.7	526.8
855.0	626.4	30.9	-3	29.4	.2	-41.3	.6	.4	-118	59.7	99.7	572.9

ORIGINAL LISTED
OF POOR QUALITY

ALL NEG

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL RECORD OF POOR QUALITY

TIME	NOM VAL	PROPULSION										ALPHA POS	
		1	2	3	4	5	6	7	8	9	10	11	12
50.0	-3.1	-1	0	-1	0	0	0	0	0	0	0	1.5	-1.6
51.0	-3.1	-2	0	0	0	0	0	0	0	0	0	1.5	-1.7
52.0	-3.2	-1	0	0	0	0	0	0	0	0	0	1.5	-1.8
53.0	-3.1	-1	0	0	0	0	0	0	0	0	0	1.5	-1.9
54.0	-3.1	-1	0	0	0	0	0	0	0	0	0	1.5	-2.0
55.0	-3.0	-1	0	0	0	0	0	0	0	0	0	1.5	-2.1
56.0	-3.1	-1	0	0	0	0	0	0	0	0	0	1.5	-2.2
57.0	-3.1	-1	0	0	0	0	0	0	0	0	0	1.5	-2.3
58.0	-3.1	-1	0	0	0	0	0	0	0	0	0	1.5	-2.4
59.0	-3.0	-1	0	0	0	0	0	0	0	0	0	1.5	-2.5
60.0	-2.8	-1	0	0	0	0	0	0	0	0	0	1.5	-2.6
61.0	-2.5	-1	0	0	0	0	0	0	0	0	0	1.5	-2.7
62.0	-2.3	-1	0	0	0	0	0	0	0	0	0	1.5	-2.8
63.0	-2.0	-1	0	0	0	0	0	0	0	0	0	1.5	-2.9
64.0	-2.0	-1	0	0	0	0	0	0	0	0	0	1.5	-3.0
65.0	-1.8	-1	0	0	0	0	0	0	0	0	0	1.5	-3.1
66.0	-1.6	-1	0	0	0	0	0	0	0	0	0	1.5	-3.2
67.0	-1.4	-1	0	0	0	0	0	0	0	0	0	1.5	-3.3
68.0	-1.2	-1	0	0	0	0	0	0	0	0	0	1.5	-3.4
69.0	-1.0	-1	0	0	0	0	0	0	0	0	0	1.5	-3.5
70.0	-0.9	-1	0	0	0	0	0	0	0	0	0	1.5	-3.6
71.0	-0.5	-1	0	0	0	0	0	0	0	0	0	1.5	-3.7
72.0	-0.3	-1	0	0	0	0	0	0	0	0	0	1.5	-3.8
73.0	-0.1	-1	0	0	0	0	0	0	0	0	0	1.5	-3.9
74.0	0.1	-1	0	0	0	0	0	0	0	0	0	1.5	-4.0
75.0	0.4	-1	0	0	0	0	0	0	0	0	0	1.5	-4.1
76.0	0.6	-1	0	0	0	0	0	0	0	0	0	1.5	-4.2
77.0	0.9	-1	0	0	0	0	0	0	0	0	0	1.5	-4.3
78.0	1.2	-1	0	0	0	0	0	0	0	0	0	1.5	-4.4
79.0	1.4	-1	0	0	0	0	0	0	0	0	0	1.5	-4.5
80.0	1.7	-1	0	0	0	0	0	0	0	0	0	1.5	-4.6
81.0	2.0	-1	0	0	0	0	0	0	0	0	0	1.5	-4.7
82.0	2.2	-1	0	0	0	0	0	0	0	0	0	1.5	-4.8
83.0	2.2	-1	0	0	0	0	0	0	0	0	0	1.5	-4.9
84.0	2.2	-1	0	0	0	0	0	0	0	0	0	1.5	-5.0
85.0	2.2	-1	0	0	0	0	0	0	0	0	0	1.5	-5.1
86.0	2.2	-1	0	0	0	0	0	0	0	0	0	1.5	-5.2
87.0	2.0	-1	0	0	0	0	0	0	0	0	0	1.5	-5.3
88.0	1.9	-1	0	0	0	0	0	0	0	0	0	1.5	-5.4
89.0	1.7	-1	0	0	0	0	0	0	0	0	0	1.5	-5.5
90.0	1.6	-1	0	0	0	0	0	0	0	0	0	1.5	-5.6
91.0	1.5	-1	0	0	0	0	0	0	0	0	0	1.5	-5.7
92.0	1.5	-1	0	0	0	0	0	0	0	0	0	1.5	-5.8
93.0	1.4	-1	0	0	0	0	0	0	0	0	0	1.5	-5.9
94.0	1.3	-1	0	0	0	0	0	0	0	0	0	1.5	-6.0
95.0	1.2	-1	0	0	0	0	0	0	0	0	0	1.5	-6.1
96.0	1.1	-1	0	0	0	0	0	0	0	0	0	1.5	-6.2
97.0	1.0	-1	0	0	0	0	0	0	0	0	0	1.5	-6.3
98.0	0.9	-1	0	0	0	0	0	0	0	0	0	1.5	-6.4
99.0	0.8	-1	0	0	0	0	0	0	0	0	0	1.5	-6.5
100.0	0.7	-1	0	0	0	0	0	0	0	0	0	1.5	-6.6

ORIGINAL

PROPULSION															ALPHA NEG	
TIME	NOH VAL	1	2	3	4	5	6	7	8	9	10	11				
50.0	-3.1	.5	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	1.5	-1.6	-4.7	
51.0	-3.1	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.5	-1.7	-4.6	
52.0	-3.2	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	-1.8	-4.5	
53.0	-3.1	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	-1.9	-4.3	
54.0	-3.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	-1.9	-4.3	
55.0	-3.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	-1.9	-4.3	
56.0	-3.1	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	-1.9	-4.3	
57.0	-3.1	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	-1.9	-4.3	
58.0	-3.0	.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	-1.7	-4.2	
59.0	-3.0	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	-1.7	-4.2	
60.0	-3.0	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	-1.6	-4.1	
61.0	-2.8	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	-1.6	-4.1	
62.0	-2.5	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.5	-1.2	-3.9	
63.0	-2.3	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.5	-1.0	-3.8	
64.0	-2.2	1.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.5	-1.0	-3.8	
65.0	-2.0	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	-1.6	-3.7	
66.0	-1.4	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	-1.6	-3.7	
67.0	-1.5	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	-1.6	-3.7	
68.0	-1.2	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	-1.6	-3.7	
69.0	-1.1	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	-1.6	-3.7	
70.0	-1.1	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	-1.6	-3.7	
71.0	-1.1	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	-1.6	-3.7	
72.0	-1.1	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	-1.6	-3.7	
73.0	-1.1	1.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	-1.6	-3.7	
74.0	-1.1	1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.9	-1.5	-3.5	
75.0	-1.1	1.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	-1.7	-3.4	
76.0	-1.1	1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	-1.7	-3.4	
77.0	-1.1	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.3	-1.8	-3.2	
78.0	-1.2	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.3	-1.8	-3.2	
79.0	-1.2	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.2	-2.0	-3.2	
80.0	-1.2	1.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	-2.0	-3.2	
81.0	-1.2	1.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.8	-2.1	-3.0	
82.0	-2.2	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.9	-2.1	-3.0	
83.0	-2.2	1.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.9	-2.1	-3.0	
84.0	-2.2	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.8	-2.1	-3.0	
85.0	-2.2	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.9	-2.1	-3.0	
86.0	-2.2	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.9	-2.1	-3.0	
87.0	-2.0	1.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.9	-2.1	-3.0	
88.0	-1.9	1.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.7	-2.9	
89.0	-1.9	1.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.8	-2.9	
90.0	-1.9	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.8	-2.9	
91.0	-1.9	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.8	-2.9	
92.0	-1.9	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.8	-2.9	
93.0	-1.9	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.8	-2.9	
94.0	-1.9	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.8	-2.9	
95.0	-1.9	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.8	-2.9	
96.0	-1.9	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.8	-2.9	
97.0	-1.9	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.8	-2.9	
98.0	-1.9	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.8	-2.9	
99.0	-1.9	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.8	-2.9	
100.0	-1.9	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	-1.8	-2.9	

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OF PAGE 000000

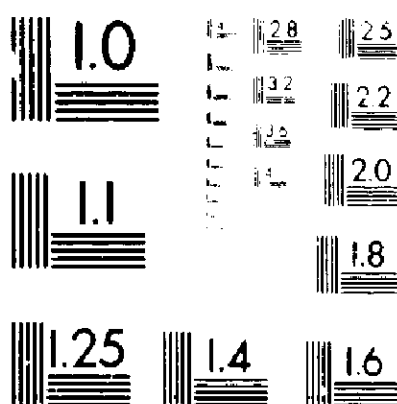
PROPULSION

TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11	ALPHA	POS
285.0	-14.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-12.8	-16.3
295.0	-14.3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-12.8	-16.1
305.0	-14.2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-12.6	-16.0
315.0	-14.0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-12.4	-15.8
325.0	-13.8	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-12.2	-15.5
335.0	-13.4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-11.9	-15.1
345.0	-13.1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-11.5	-14.7
355.0	-12.6	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-11.1	-14.2
365.0	-13.1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-11.5	-14.5
375.0	-11.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-10.1	-13.1
385.0	-10.9	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-9.5	-12.9
395.0	-10.3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-8.9	-11.7
405.0	-9.6	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-8.2	-11.0
415.0	-8.0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-7.5	-10.2
425.0	-7.2	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-6.7	-9.4
435.0	-6.3	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5.9	-8.5
445.0	-5.4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-5.1	-7.6
455.0	-4.4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-4.2	-6.7
465.0	-3.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-3.3	-5.7
475.0	-2.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-2.3	-4.7
485.0	-1.5	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1.3	-3.7
495.0	-.4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-.3	-2.7
505.0	1.4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1.7	-1.7
515.0	2.4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	2.9	-.4
525.0	3.4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	3.9	1.3
535.0	4.4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	4.9	2.1
545.0	5.4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	5.8	2.9
555.0	6.4	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	6.6	3.5

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-24529

UNC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-
1963-A
STANDARD REFERENCE MATERIAL 1963-A
ANSI Z39.48-1968 (Z39.48-1963)



ZERO/EWTRON											ALPHA	POS
TIME	NOI VAL	1	2	3	4	5	6	7	8			
1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14.0	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.0	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.0	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.0	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.0	-1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.0	-2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29.0	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.0	-3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31.0	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.0	-3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33.0	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34.0	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.0	-3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36.0	-3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.0	-3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38.0	-3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39.0	-3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.0	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41.0	-3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.0	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43.0	-3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44.0	-3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.0	-3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46.0	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.0	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48.0	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49.0	-3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.0	-3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ORIGINAL PAGE IS
OF POOR QUALITY

AFRO/ENVIRON

TIME	NOM VAL	1	2	3	4	5	6	7	8	ALPHA POS			
285.0	-14.5	-1	-4	-8	-0	-0	-0	-4	-0	1.7	1.8	-12.8	-16.3
295.0	-14.3	-1	-4	-7	-0	-0	-0	-4	-0	1.7	1.8	-12.6	-16.1
305.0	-14.2	-1	-4	-7	-0	-0	-0	-4	-0	1.7	1.8	-12.6	-16.0
315.0	-14.0	-1	-4	-6	-0	-0	-0	-4	-0	1.6	1.7	-12.4	-15.8
325.0	-13.8	-1	-3	-6	-0	-0	-0	-4	-0	1.6	1.7	-12.2	-15.5
335.0	-13.4	-1	-3	-6	-0	-0	-0	-4	-0	1.6	1.7	-11.9	-15.1
345.0	-13.1	-1	-3	-5	-0	-0	-0	-4	-0	1.5	1.6	-11.5	-14.7
355.0	-12.8	-1	-3	-5	-0	-0	-0	-3	-0	1.5	1.6	-11.1	-14.2
365.0	-13.0	-1	-2	-4	-0	-0	-0	-3	-0	1.5	1.5	-11.5	-14.5
375.0	-11.5	-1	-2	-4	-0	-0	-0	-3	-0	1.4	1.5	-10.1	-13.1
385.0	-10.9	-1	-2	-3	-0	-0	-0	-3	-0	1.4	1.5	-9.5	-12.4
395.0	-10.3	-1	-1	-3	-0	-0	-0	-3	-0	1.4	1.4	-8.9	-11.7
405.0	-9.6	-1	-1	-2	-0	-0	-0	-3	-0	1.3	1.4	-8.2	-11.0
415.0	-8.6	-1	-1	-2	-0	-0	-0	-3	-0	1.3	1.4	-7.5	-10.2
425.0	-9.0	-1	-1	-1	-0	-0	-0	-3	-0	1.3	1.3	-6.7	-9.4
435.0	-7.2	-1	-0	-0	-0	-0	-0	-3	-0	1.3	1.3	-5.9	-8.5
445.0	-6.3	-1	-0	-0	-0	-0	-0	-2	-0	1.2	1.3	-5.1	-7.6
455.0	-5.4	-1	-0	-0	-0	-0	-0	-2	-0	1.2	1.3	-4.2	-6.7
465.0	-4.4	-1	-0	-0	-0	-0	-0	-2	-0	1.2	1.2	-3.3	-5.7
475.0	-3.5	-1	-1	-2	-0	-0	-0	-2	-0	1.2	1.2	-2.5	-4.7
485.0	-2.5	-1	-2	-4	-0	-0	-0	-2	-0	1.2	1.2	-1.3	-3.7
495.0	-1.5	-1	-2	-4	-0	-0	-0	-2	-0	1.2	1.2	-0.1	-2.7
505.0	-0.4	-1	-2	-5	-0	-0	-0	-1	-0	1.2	1.2	0.8	-1.7
515.0	0.4	-0	-3	-5	-0	-0	-0	-1	-0	1.3	1.2	1.7	-0.8
525.0	1.7	-0	-3	-6	-0	-0	-0	-1	-0	1.3	1.3	2.9	0.3
535.0	2.6	-0	-3	-7	-0	-0	-0	-1	-0	1.3	1.3	3.9	1.3
545.0	3.5	-0	-4	-7	-0	-0	-0	-1	-0	1.4	1.4	4.9	2.1
555.0	4.4	-0	-4	-9	-0	-0	-0	-1	-0	1.5	1.5	5.4	2.9
565.0	5.0	-0	-5	-9	-0	-0	-0	-1	-0	1.6	1.6	6.6	3.5

ORIGINAL PAGE IS
OF POOR QUALITY

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NEO/ENVIRON

TIME	NOM VAL	1	2	3	4	5	6	7	8	ALPHA	NEG
215.0	-14.0	1	4	6	-0	-0	0	4	1	1.7	1.8
225.0	-14.3	1	3	6	-0	-0	0	4	1	1.7	1.8
235.0	-14.2	1	3	5	-0	-0	0	4	1	1.7	1.8
245.0	-14	1	3	5	-0	-0	0	4	1	1.6	1.7
255.0	-13	1	3	4	-0	-0	0	4	1	1.6	1.7
265.0	-13.4	1	3	4	-0	-0	0	3	1	1.6	1.7
275.0	-13.1	1	3	4	-0	-0	0	3	1	1.6	1.7
285.0	-12.5	1	2	3	-0	-0	0	3	1	1.5	1.6
295.0	-13.1	1	2	3	-0	-0	0	3	1	1.5	1.6
305.0	-11.5	1	2	3	-0	-0	0	3	1	1.5	1.5
315.0	-10.9	1	2	2	-0	-0	0	3	1	1.4	1.5
325.0	-10.3	1	1	2	-0	-0	0	3	1	1.4	1.4
335.0	-9.8	1	1	1	-0	-0	0	3	1	1.3	1.4
345.0	-8.4	1	1	1	-0	-0	0	3	1	1.3	1.4
355.0	-7.2	1	1	1	-0	-0	0	3	1	1.3	1.3
365.0	-6.3	1	1	1	-0	-0	0	3	1	1.2	1.3
375.0	-5.4	1	1	1	-0	-0	0	3	1	1.2	1.2
385.0	-4.4	1	1	1	-0	-0	0	3	1	1.2	1.2
395.0	-3.5	1	1	1	-0	-0	0	3	1	1.2	1.2
405.0	-2.6	1	1	1	-0	-0	0	3	1	1.2	1.2
415.0	-1.5	1	1	1	-0	-0	0	3	1	1.2	1.2
425.0	0	1	1	1	-0	-0	0	3	1	1.2	1.2
435.0	1.7	1	1	1	-0	-0	0	3	1	1.3	1.3
445.0	2.1	1	1	1	-0	-0	0	3	1	1.3	1.3
455.0	3.5	1	1	1	-0	-0	0	3	1	1.4	1.4
465.0	4.4	1	1	1	-0	-0	0	3	1	1.5	1.5
475.0	5.0	1	1	1	-0	-0	0	3	1	1.6	1.6

ORIGINAL PAGE IS
OF POOR QUALITY

MASS PROP										ALPHA PDS	
TIME	NOM VAL	1	2	3	4	5	6	7	8	9	
1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	-1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14.0	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.0	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.0	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.0	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.0	-1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.0	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.0	-2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29.0	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.0	-3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31.0	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.0	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33.0	-3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34.0	-3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.0	-3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36.0	-3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.0	-3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38.0	-3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39.0	-3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.0	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41.0	-3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.0	-3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43.0	-3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44.0	-3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45.0	-3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46.0	-3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.0	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48.0	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49.0	-3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.0	-3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ORIGINAL PAGE IS
OF POOR QUALITY

MISS PROF											ALPHA NEG
TIME	NOM VAL	1	2	3	4	5	6	7	8	9	
0	0	0	0	0	0	0	0	0	0	0	0
1.0	-1.6	0	0	0	0	0	0	0	0	0	0
2.0	5.0	0	0	0	0	0	0	0	0	0	0
3.0	7.5	0	0	0	0	0	0	0	0	0	0
4.0	7.9	0	0	0	0	0	0	0	0	0	0
5.0	7.9	0	0	0	0	0	0	0	0	0	0
6.0	7.6	0	0	0	0	0	0	0	0	0	0
7.0	7.4	0	0	0	0	0	0	0	0	0	0
8.0	7.2	0	0	0	0	0	0	0	0	0	0
9.0	7.6	0	0	0	0	0	0	0	0	0	0
10.0	9.1	0	0	0	0	0	0	0	0	0	0
11.0	10.4	0	0	0	0	0	0	0	0	0	0
12.0	11.0	0	0	0	0	0	0	0	0	0	0
13.0	11.0	0	0	0	0	0	0	0	0	0	0
14.0	10.7	0	0	0	0	0	0	0	0	0	0
15.0	9.9	0	0	0	0	0	0	0	0	0	0
16.0	8.2	0	0	0	0	0	0	0	0	0	0
17.0	6.2	0	0	0	0	0	0	0	0	0	0
18.0	4.4	0	0	0	0	0	0	0	0	0	0
19.0	3.0	0	0	0	0	0	0	0	0	0	0
20.0	2.0	0	0	0	0	0	0	0	0	0	0
21.0	1.4	0	0	0	0	0	0	0	0	0	0
22.0	0	0	0	0	0	0	0	0	0	0	0
23.0	0	0	0	0	0	0	0	0	0	0	0
24.0	0	0	0	0	0	0	0	0	0	0	0
25.0	0	0	0	0	0	0	0	0	0	0	0
26.0	0	0	0	0	0	0	0	0	0	0	0
27.0	0	0	0	0	0	0	0	0	0	0	0
28.0	0	0	0	0	0	0	0	0	0	0	0
29.0	0	0	0	0	0	0	0	0	0	0	0
30.0	0	0	0	0	0	0	0	0	0	0	0
31.0	0	0	0	0	0	0	0	0	0	0	0
32.0	0	0	0	0	0	0	0	0	0	0	0
33.0	0	0	0	0	0	0	0	0	0	0	0
34.0	0	0	0	0	0	0	0	0	0	0	0
35.0	0	0	0	0	0	0	0	0	0	0	0
36.0	0	0	0	0	0	0	0	0	0	0	0
37.0	0	0	0	0	0	0	0	0	0	0	0
38.0	0	0	0	0	0	0	0	0	0	0	0
39.0	0	0	0	0	0	0	0	0	0	0	0
40.0	0	0	0	0	0	0	0	0	0	0	0
41.0	0	0	0	0	0	0	0	0	0	0	0
42.0	0	0	0	0	0	0	0	0	0	0	0
43.0	0	0	0	0	0	0	0	0	0	0	0
44.0	0	0	0	0	0	0	0	0	0	0	0
45.0	0	0	0	0	0	0	0	0	0	0	0
46.0	0	0	0	0	0	0	0	0	0	0	0
47.0	0	0	0	0	0	0	0	0	0	0	0
48.0	0	0	0	0	0	0	0	0	0	0	0
49.0	0	0	0	0	0	0	0	0	0	0	0
50.0	0	0	0	0	0	0	0	0	0	0	0

TIME	NOM VAL	MASS PROP										ALPHA POS									
		1	2	3	4	5	6	7	8	9											
295.0	-14.5	-6	0	0	0	0	0	0	-1	1	1.7	-12.8	-16.1	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8
295.0	-14.3	-6	0	0	0	0	0	0	-1	1	1.7	-12.6	-16.1	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8
315.0	-14.2	-6	0	0	0	0	0	0	-1	1	1.7	-12.6	-16.0	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8
315.0	-14.0	-6	0	0	0	0	0	0	-1	1	1.6	-12.4	-15.8	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7
325.0	-13.8	-6	0	0	0	0	0	0	-1	1	1.6	-12.2	-15.5	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7
335.0	-13.4	-6	0	0	0	0	0	0	-1	1	1.6	-11.9	-15.1	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7
345.0	-13.1	-6	0	0	0	0	0	0	-1	1	1.6	-11.5	-14.7	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6
355.0	-12.6	-6	0	0	0	0	0	0	-1	1	1.5	-11.1	-14.2	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6
365.0	-11.0	-6	0	0	0	0	0	0	-1	1	1.5	-10.5	-13.4	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5
375.0	-11.5	-6	0	0	0	0	0	0	-1	1	1.4	-10.1	-13.1	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5
385.0	-10.9	-6	0	0	0	0	0	0	-1	1	1.4	-9.5	-12.4	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5
395.0	-10.3	-6	0	0	0	0	0	0	-1	1	1.4	-8.9	-11.7	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
405.0	-9.6	-6	0	0	0	0	0	0	-1	1	1.3	-8.2	-11.0	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4
415.0	-8.8	-6	0	0	0	0	0	0	-1	1	1.3	-7.5	-10.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
425.0	-8.0	-6	0	0	0	0	0	0	-1	1	1.3	-6.7	-9.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
435.0	-7.2	-6	0	0	0	0	0	0	-1	1	1.3	-5.9	-8.5	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
445.0	-6.3	-6	0	0	0	0	0	0	-1	1	1.2	-5.1	-7.6	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
455.0	-5.4	-6	0	0	0	0	0	0	-1	1	1.2	-4.2	-6.7	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
465.0	-4.4	-6	0	0	0	0	0	0	-1	1	1.2	-3.3	-5.7	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
475.0	-3.5	-5	0	0	0	0	0	0	-1	1	1.2	-2.3	-4.7	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
485.0	-2.5	-5	0	0	0	0	0	0	-1	1	1.2	-1.3	-3.7	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
495.0	-1.5	-5	0	0	0	0	0	0	-1	1	1.2	-.3	-2.7	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
505.0	-.4	-5	0	0	0	0	0	0	-2	2	1.2	.8	-1.7	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
515.0	1.4	-4	0	0	0	0	0	0	-2	2	1.3	1.7	-.8	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3
525.0	1.7	-4	0	0	0	0	0	0	-2	2	1.3	2.9	.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
535.0	2.6	-4	0	0	0	0	0	0	-2	2	1.4	4.9	2.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
545.0	3.5	-4	0	0	0	0	0	0	-2	2	1.5	5.8	2.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
555.0	4.4	-4	0	0	0	0	0	0	-2	2	1.6	6.6	3.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
565.0	5.3	-3	0	0	0	0	0	0	-2	2											

ORIGINAL PAGE 10
OF POOR QUALITY

HASS PROP													ALPHA NEG												
TIME	NOV VAL	1	2	3	4	5	6	7	8	9															
245.0	-14.5	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.7	1.8	-12.0	-16.5											
295.0	-14.5	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.7	1.8	-12.6	-16.1											
305.0	-14.5	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.7	1.8	-12.6	-16.0											
315.0	-14.5	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.6	1.7	-12.4	-15.8											
325.0	-13.6	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.6	1.7	-12.2	-15.5											
335.0	-13.4	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.6	1.7	-11.9	-15.1											
345.0	-13.1	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.5	1.6	-11.5	-14.7											
355.0	-12.6	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.5	1.5	-11.1	-14.2											
365.0	-13.0	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.5	1.5	-11.5	-14.5											
375.0	-11.5	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.4	1.5	-10.1	-13.1											
385.0	-10.9	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.4	1.5	-9.5	-12.4											
395.0	-10.3	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.4	1.4	-8.2	-11.7											
405.0	-9.5	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.3	1.4	-7.5	-10.2											
415.0	-8.6	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.3	1.3	-6.7	-9.4											
425.0	-8.0	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.3	1.3	-5.9	-8.5											
435.0	-7.2	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.3	1.3	-5.1	-7.6											
445.0	-6.3	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.2	1.3	-4.2	-6.7											
455.0	-5.4	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.2	1.2	-3.5	-5.7											
465.0	-4.4	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.2	1.2	-2.3	-4.7											
475.0	-3.5	.6	.0	.0	.0	.0	.0	.0	.1	.1	1.2	1.2	-1.3	-3.7											
485.0	-2.5	.6	.0	.0	.0	.0	.0	.0	.2	.2	1.2	1.2	-.3	-2.7											
495.0	-1.5	.6	.0	.0	.0	.0	.0	.0	.2	.2	1.2	1.2	.8	-1.7											
505.0	-.5	.6	.0	.0	.0	.0	.0	.0	.2	.2	1.2	1.2	1.7	-.8											
515.0	1.7	.6	.0	.0	.0	.0	.0	.0	.2	.2	1.3	1.3	2.9	1.3											
525.0	2.6	.6	.0	.0	.0	.0	.0	.0	.2	.2	1.3	1.3	3.9	2.1											
535.0	3.5	.6	.0	.0	.0	.0	.0	.0	.2	.2	1.4	1.4	4.9	2.9											
545.0	4.4	.6	.0	.0	.0	.0	.0	.0	.2	.2	1.5	1.5	5.8	3.5											
555.0	5.1	.6	.0	.0	.0	.0	.0	.0	.2	.2	1.6	1.5	6.6	3.5											

ORIGINAL PAGE IS
OF POOR QUALITY

TIME	NOM VAL	1	2	3	4	5	6	7	8	GN/C	ALPHA	POS
285.0	-14.5	-3	-0	-4	-0	-4	-0	-0	-1	1.7	1.8	-12.8
295.0	-14.3	-3	-0	-3	-0	-4	-0	-0	-1	1.7	1.8	-12.6
305.0	-14.2	-2	-0	-3	-0	-4	-0	-0	-1	1.7	1.8	-12.6
315.0	-14.0	-2	-0	-3	-0	-4	-0	-0	-1	1.6	1.7	-12.4
325.0	-13.8	-2	-0	-3	-0	-3	-0	-0	-1	1.6	1.7	-12.4
335.0	-13.4	-2	-0	-3	-0	-3	-0	-0	-1	1.6	1.7	-12.2
345.0	-13.1	-2	-0	-3	-0	-3	-0	-0	-1	1.6	1.7	-11.9
355.0	-12.6	-2	-0	-2	-0	-3	-0	-0	-1	1.5	1.6	-11.5
365.0	-13.0	-1	-0	-2	-0	-2	-0	-0	-1	1.5	1.5	-11.1
375.0	-11.5	-1	-0	-2	-0	-2	-0	-0	-1	1.4	1.5	-10.1
385.0	-10.9	-1	-0	-2	-0	-2	-0	-0	-1	1.4	1.5	-9.5
395.0	-10.3	-1	-0	-1	-0	-1	-0	-0	-1	1.4	1.4	-8.9
405.0	-9.6	-1	-0	-1	-0	-1	-0	-0	-1	1.3	1.4	-8.2
415.0	-8.8	-0	-0	-1	-0	-1	-0	-0	-1	1.3	1.4	-7.9
425.0	-8.0	-0	-0	-1	-0	-0	-0	-0	-1	1.3	1.3	-6.7
435.0	-7.2	-0	-0	-0	-0	-0	-0	-0	-1	1.3	1.3	-5.9
445.0	-6.3	-0	-0	-0	-0	-0	-0	-0	-1	1.2	1.3	-5.1
455.0	-5.4	-1	-0	-0	-0	-1	-0	-0	-1	1.2	1.3	-4.2
465.0	-4.4	-1	-0	-1	-0	-1	-0	-0	-1	1.2	1.2	-3.3
475.0	-3.5	-1	-0	-1	-0	-1	-0	-0	-1	1.2	1.2	-2.3
485.0	-2.5	-1	-0	-1	-0	-2	-0	-0	-1	1.2	1.2	-1.3
495.0	-1.5	-2	-0	-1	-0	-2	-0	-0	-1	1.2	1.2	-.3
505.0	-.4	-2	-0	-2	-0	-3	-0	-0	-1	1.2	1.2	.8
515.0	.4	-2	-0	-2	-0	-3	-0	-0	-1	1.2	1.2	1.7
525.0	1.7	-2	-0	-3	-0	-4	-0	-0	-1	1.3	1.3	2.3
535.0	2.6	-3	-0	-3	-0	-4	-0	-0	-1	1.3	1.3	3.3
545.0	3.5	-3	-0	-3	-0	-4	-0	-0	-1	1.3	1.3	4.0
555.0	4.4	-3	-0	-3	-0	-4	-0	-0	-1	1.4	1.4	5.0
565.0	5.0	-3	-0	-4	-0	-5	-0	-0	-2	1.5	1.5	5.8
									-2	1.6	1.5	6.6
												3.5

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE (3)
OF POOR QUALITY

PROPULSION														BETA POS	
TIME	NOM	VAL	1	2	3	4	5	6	7	8	9	10	11		
50.0	4		0	0	0	2	0	1	0	0	0	0	0	1.0	-1.0
51.0	4		0	0	0	3	0	1	0	0	0	0	0	1.0	-1.0
52.0	3		1	0	0	3	0	1	0	0	0	0	0	1.0	-1.2
53.0	3		2	0	0	2	0	1	0	0	0	0	0	1.0	-1.2
54.0	3		2	0	0	2	0	1	0	0	0	0	0	1.0	-1.3
55.0	3		1	0	0	2	0	1	0	0	0	0	0	1.0	-1.3
56.0	3		3	0	0	2	0	1	0	0	0	0	0	1.0	-1.3
57.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.3
58.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.3
59.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
60.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
61.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
62.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
63.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
64.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
65.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
66.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
67.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
68.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
69.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
70.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
71.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
72.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
73.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
74.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
75.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
76.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
77.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
78.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
79.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
80.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
81.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
82.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
83.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
84.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
85.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
86.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
87.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
88.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
89.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
90.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
91.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
92.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
93.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
94.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
95.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
96.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
97.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
98.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4
99.0	3		3	0	0	3	0	1	0	0	0	0	0	1.0	-1.4

TIME	MON	VAL	1	2	3	4	5	6	7	8	9	10	11	BETA	NET
50.0	4	2	0	0	0	1	1	1	0	0	0	0	0	1.0	1.0
51.0	4	2	0	0	0	1	1	1	0	0	0	0	0	1.1	1.1
52.0	3	1	0	0	0	1	1	1	0	0	0	0	0	1.1	1.1
53.0	3	0	0	0	0	1	1	1	0	0	0	0	0	1.1	1.1
54.0	3	0	0	0	0	1	1	1	0	0	0	0	0	1.1	1.1
55.0	3	0	0	0	0	1	1	1	0	0	0	0	0	1.1	1.1
56.0	3	1	0	0	0	1	1	1	0	0	0	0	0	1.1	1.1
57.0	3	1	0	0	0	1	1	1	0	0	0	0	0	1.2	1.2
58.0	3	1	0	0	0	1	1	1	0	0	0	0	0	1.2	1.2
59.0	3	1	0	0	0	1	1	1	0	0	0	0	0	1.2	1.2
60.0	3	0	0	0	0	1	1	1	0	0	0	0	0	1.2	1.2
61.0	3	0	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
62.0	3	0	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
63.0	3	0	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
64.0	3	0	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
65.0	3	0	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
66.0	3	0	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
67.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
68.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
69.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
70.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
71.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
72.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
73.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
74.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
75.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
76.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
77.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
78.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
79.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
80.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
81.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
82.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
83.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
84.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
85.0	4	1	0	0	0	1	1	1	0	0	0	0	0	1.3	1.3
86.0	4	1	0	0	0	1	1	1	0	0					

ORIGINAL PAGE 19
OF POOR QUALITY

POPULATION													RETA	POS
TIME	NOM	VAL	1	2	3	4	5	6	7	8	9	10	11	
285.0	-10.4	-1	0	0	0	1	0	0	0	1	0	0	0	-10.1
295.0	-10.1	-1	0	0	0	1	0	0	0	1	0	0	0	-9.9
305.0	-9.9	-1	0	0	0	1	0	0	0	1	0	0	0	-10.2
315.0	-9.7	-1	0	0	0	1	0	0	0	1	0	0	0	-9.5
325.0	-9.5	-1	0	0	0	1	0	0	0	1	0	0	0	-9.3
335.0	-9.3	-1	0	0	0	1	0	0	0	1	0	0	0	-9.6
345.0	-9.1	-1	0	0	0	1	0	0	0	1	0	0	0	-9.3
355.0	-8.9	-1	0	0	0	1	0	0	0	1	0	0	0	-8.7
365.0	-8.7	-1	0	0	0	1	0	0	0	1	0	0	0	-9.0
375.0	-8.5	-1	0	0	0	1	0	0	0	1	0	0	0	-8.3
385.0	-8.3	-1	0	0	0	1	0	0	0	1	0	0	0	-8.6
395.0	-8.2	-1	0	0	0	1	0	0	0	1	0	0	0	-8.0
405.0	-8.0	-1	0	0	0	1	0	0	0	1	0	0	0	-8.2
415.0	-7.8	-1	0	0	0	1	0	0	0	1	0	0	0	-7.7
425.0	-7.7	-1	0	0	0	1	0	0	0	1	0	0	0	-7.5
435.0	-7.5	-1	0	0	0	1	0	0	0	1	0	0	0	-7.3
445.0	-7.4	-1	0	0	0	1	0	0	0	1	0	0	0	-7.2
455.0	-7.2	-1	0	0	0	1	0	0	0	1	0	0	0	-7.1
465.0	-6.9	-1	0	0	0	1	0	0	0	1	0	0	0	-6.8
475.0	-6.8	-1	0	0	0	1	0	0	0	1	0	0	0	-6.7
485.0	-6.6	-1	0	0	0	1	0	0	0	1	0	0	0	-6.5
495.0	-6.5	-1	0	0	0	1	0	0	0	1	0	0	0	-6.4
505.0	-6.4	-1	0	0	0	1	0	0	0	1	0	0	0	-6.3
515.0	-6.3	-1	0	0	0	1	0	0	0	1	0	0	0	-6.2
525.0	-6.2	-1	0	0	0	1	0	0	0	1	0	0	0	-6.1
535.0	-6.1	-1	0	0	0	1	0	0	0	1	0	0	0	-6.0
545.0	-6.0	-1	0	0	0	1	0	0	0	1	0	0	0	-5.9
555.0	-5.9	-1	0	0	0	1	0	0	0	1	0	0	0	-5.8
565.0	-5.8	-1	0	0	0	1	0	0	0	1	0	0	0	-5.7

3
Y

G-73

BEVA POS

APPROVED

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

9
Y

TIME	NOM VAL	1	2	3	4	5	6	7	8	AEROZENVISION	BETA NEG
50.0	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
51.0	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
56.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
58.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
59.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
61.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
63.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
64.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
66.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
68.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
69.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
73.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
91.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
94.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
96.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
98.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AERO/ENVIRON													RETA	PUS
TIME	NOM VAL	1	2	3	4	5	6	7	8	9	10	11	12	13
295.0	-10.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-10.1	-10.6	...
295.0	-10.1	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-9.9	-10.4	...
305.0	-9.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-9.7	-10.2	...
315.0	-9.7	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-9.5	-10.0	...
325.0	-9.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-9.3	-9.8	...
335.0	-9.3	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-9.1	-9.6	...
345.0	-9.1	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-8.9	-9.3	...
355.0	-8.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-8.7	-9.1	...
365.0	-8.7	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-8.5	-9.0	...
375.0	-8.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-8.3	-8.8	...
385.0	-8.3	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-8.1	-8.6	...
395.0	-8.1	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-7.9	-8.4	...
405.0	-7.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-7.7	-8.2	...
415.0	-7.8	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-7.5	-8.0	...
425.0	-7.7	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-7.3	-7.7	...
435.0	-7.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-7.1	-7.6	...
445.0	-7.4	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-6.9	-7.4	...
455.0	-7.2	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-6.7	-7.2	...
465.0	-7.1	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-6.5	-7.1	...
475.0	-6.9	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-6.3	-6.9	...
485.0	-6.8	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-6.1	-6.7	...
495.0	-6.7	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-5.9	-6.5	...
505.0	-6.6	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-5.7	-6.3	...
515.0	-6.5	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-5.5	-6.1	...
525.0	-6.4	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-5.3	-5.9	...
535.0	-6.4	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-5.1	-5.7	...
545.0	-6.3	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-4.9	-5.5	...
555.0	-6.3	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-4.7	-5.3	...
565.0	-6.3	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.0	-0.2	-0.3	-4.5	-5.1	...

ORIGINAL PAGE 13
OF POOR QUALITY

AERO/ENVIRON										BLTA WEG									
TIME	MOM	VAL	1	2	3	4	5	6	7	8									
285.0	-10.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
295.0	-10.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
305.0	-9.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
315.0	-9.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
325.0	-9.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
335.0	-9.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
345.0	-9.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
355.0	-8.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
365.0	-8.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
375.0	-8.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
385.0	-8.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
395.0	-8.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
405.0	-8.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
415.0	-7.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
425.0	-7.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
435.0	-7.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
445.0	-7.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
455.0	-7.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
465.0	-7.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
475.0	-6.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
485.0	-6.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
495.0	-6.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
505.0	-6.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
515.0	-6.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
525.0	-6.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
535.0	-6.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
545.0	-6.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
555.0	-6.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
565.0	-6.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

ORIGINAL
OF POOR

MASS PROP													BF1A POS	
TIME	NOM VAL	1	2	3	4	5	6	7	8	9				
50.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	1.4	1.4	1.0
51.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.4	1.4	1.0
52.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.4	1.4	1.0
53.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.5	1.4	1.0
54.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.5	1.4	1.0
55.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.5	1.4	1.0
56.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	1.6	1.4	1.0
57.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	1.6	1.5	1.0
58.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	1.7	1.5	1.0
59.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	1.7	1.5	1.0
60.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.7	1.6	1.0
61.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.7	1.6	1.0
62.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.7	1.6	1.0
63.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.7	1.6	1.0
64.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	1.6	1.5	1.0
65.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.6	1.5	1.0
66.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.6	1.5	1.0
67.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.5	1.4	1.0
68.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.5	1.4	1.0
69.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.5	1.5	1.0
70.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.5	1.5	1.0
71.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.5	1.5	1.0
72.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.4	1.5	1.0
73.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	1.4	1.5	1.0
74.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	1.2	1.4	1.0
75.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	1.2	1.4	1.0
76.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.4	1.4	1.0
77.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.2	1.5	1.0
78.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.5	1.5	1.0
79.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	1.2	1.5	1.0
80.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.0	1.2	1.5	1.0
81.0	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.4	1.6	1.0
82.0	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.3	1.7	1.0
83.0	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.1	1.3	1.7	1.0
84.0	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	1.3	1.7	1.0
85.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.2	1.3	1.7	1.0
86.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.3	1.7	1.0
87.0	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.3	1.9	1.0
88.0	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.4	2.0	1.0
89.0	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.4	2.0	1.0
90.0	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.4	2.0	1.0
91.0	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.4	2.0	1.0
92.0	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.4	2.0	1.0
93.0	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.4	1.4	2.0	1.0
94.0	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.4	1.4	2.0	1.0
95.0	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.4	1.5	2.1	1.0
96.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.7	1.5	2.1	1.0
97.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.6	1.5	2.1	1.0
98.0	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.5	2.1	1.0
99.7	.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.5	1.5	2.2	1.0

ORIGINAL
OF PCOR Q

MASS PRDP											BETA POS										
TIME	NOM VAL	1	2	3	4	5	6	7	8	9											
245.0	-10.4	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245.0	-10.1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
245.0	-9.9	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
315.0	-9.7	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
325.0	-9.5	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
335.0	-9.3	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
345.0	-9.1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
355.0	-8.9	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
365.0	-8.7	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
375.0	-8.5	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
385.0	-8.3	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
395.0	-8.1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
405.0	-7.9	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
415.0	-7.7	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
425.0	-7.5	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
435.0	-7.3	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
445.0	-7.1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
455.0	-6.9	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
465.0	-6.7	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
475.0	-6.5	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
485.0	-6.3	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
495.0	-6.1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
505.0	-5.9	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
515.0	-5.7	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
525.0	-5.5	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
535.0	-5.3	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
545.0	-5.1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
555.0	-4.9	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
565.0	-4.7	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MASS PROP												BETA	NEG
TIME	MOH	VAL	1	2	3	4	5	6	7	8	9		
285.0	-10.7												
295.0	-10.1												
305.0	-9.9												
315.0	-9.7												
325.0	-9.5												
335.0	-9.3												
345.0	-9.1												
355.0	-8.9												
365.0	-8.7												
375.0	-8.5												
385.0	-8.3												
395.0	-8.1												
405.0	-7.9												
415.0	-7.7												
425.0	-7.5												
435.0	-7.3												
445.0	-7.1												
455.0	-6.9												
465.0	-6.7												
475.0	-6.5												
485.0	-6.3												
495.0	-6.1												
505.0	-5.9												
515.0	-5.7												
525.0	-5.5												
535.0	-5.3												
545.0	-5.1												
555.0	-4.9												
565.0	-4.7												

ORIGINAL
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

TIME	MON VAL	1	2	3	4	5	6	7	BN/C	BETA POS
50.0	4	0	2	1	1	0	0	0	1.0	1.0
51.0	4	0	2	1	1	0	0	0	1.0	1.0
52.0	3	0	2	1	1	0	0	0	1.0	1.0
53.0	3	0	2	1	1	0	0	0	1.0	1.0
54.0	3	0	2	1	1	0	0	0	1.0	1.0
55.0	3	0	2	1	1	0	0	0	1.0	1.0
56.0	3	0	2	1	1	0	0	0	1.0	1.0
57.0	3	0	2	1	1	0	0	0	1.0	1.0
58.0	3	0	2	1	1	0	0	0	1.0	1.0
59.0	3	0	2	1	1	0	0	0	1.0	1.0
60.0	3	0	2	1	1	0	0	0	1.0	1.0
61.0	3	0	2	1	1	0	0	0	1.0	1.0
62.0	3	0	2	1	1	0	0	0	1.0	1.0
63.0	3	0	2	1	1	0	0	0	1.0	1.0
64.0	3	0	2	1	1	0	0	0	1.0	1.0
65.0	3	0	2	1	1	0	0	0	1.0	1.0
66.0	3	0	2	1	1	0	0	0	1.0	1.0
67.0	4	0	2	1	1	0	0	0	1.0	1.0
68.0	4	0	2	1	1	0	0	0	1.0	1.0
69.0	4	0	2	1	1	0	0	0	1.0	1.0
70.0	4	0	2	1	1	0	0	0	1.0	1.0
71.0	4	0	2	1	1	0	0	0	1.0	1.0
72.0	4	0	2	1	1	0	0	0	1.0	1.0
73.0	4	0	2	1	1	0	0	0	1.0	1.0
74.0	4	0	2	1	1	0	0	0	1.0	1.0
75.0	4	0	2	1	1	0	0	0	1.0	1.0
76.0	4	0	2	1	1	0	0	0	1.0	1.0
77.0	5	0	2	1	1	0	0	0	1.0	1.0
78.0	4	0	2	1	1	0	0	0	1.0	1.0
79.0	5	0	2	1	1	0	0	0	1.0	1.0
80.0	4	0	2	1	1	0	0	0	1.0	1.0
81.0	6	0	2	1	1	0	0	0	1.0	1.0
82.0	5	0	2	1	1	0	0	0	1.0	1.0
83.0	6	0	2	1	1	0	0	0	1.0	1.0
84.0	6	0	2	1	1	0	0	0	1.0	1.0
85.0	5	0	2	1	1	0	0	0	1.0	1.0
86.0	5	0	2	1	1	0	0	0	1.0	1.0
87.0	7	0	2	1	1	0	0	0	1.0	1.0
88.0	7	0	2	1	1	0	0	0	1.0	1.0
89.0	7	0	2	1	1	0	0	0	1.0	1.0
90.0	7	0	2	1	1	0	0	0	1.0	1.0
91.0	7	0	2	1	1	0	0	0	1.0	1.0
92.0	7	0	2	1	1	0	0	0	1.0	1.0
93.0	7	0	2	1	1	0	0	0	1.0	1.0
94.0	7	0	2	1	1	0	0	0	1.0	1.0
95.0	4	2	2	2	2	2	2	2	1.0	1.0
96.0	4	2	2	2	2	2	2	2	1.0	1.0
97.0	4	2	2	2	2	2	2	2	1.0	1.0
98.0	4	2	2	2	2	2	2	2	1.0	1.0
99.0	7	2	2	2	2	2	2	2	1.0	1.0

ORIGINAL PAGE IS
OF POOR QUALITY

GN/C										BETA NLG									
TIME	NOM	VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50.0	4	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
51.0	4	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
52.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
53.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
54.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
55.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
56.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
57.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
58.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
59.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
60.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
61.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
62.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
63.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
64.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
65.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
66.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
67.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
68.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
69.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
70.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
71.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
72.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
73.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
74.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
75.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
76.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
77.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
78.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
79.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
80.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
81.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
82.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
83.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
84.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
85.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
86.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
87.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
88.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
89.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
90.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
91.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
92.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
93.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
94.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
95.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
96.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
97.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
98.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
99.0	3	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0

BEVA POS

ORIGINAL PAGE IS
OF POOR QUALITY

REF ID: A67366

NDH VAL

G-95

BETA NEG

• • • • •

(Reverse Blank)
G-97

APPENDIX H—MISSION 1 COMPOSITE AND WIND DISPERSED TRAJECTORIES

9 Y

H-2

ORIGINAL PAGE IS
OF POOR QUALITY

COMPOSITE										AHI P05									
TIME	NOM	VAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
205.0	225.9	66.0	128.5	128.5	96.4	68.7	29.6	12.9	53.6	71.7	112.8	70.6	60.3	296.4	165.6				
205.0	227.2	66.7	129.7	129.7	97.5	69.4	29.8	13.0	48.0	72.4	113.9	71.4	60.8	298.6	166.3				
305.0	228.9	67.2	130.8	130.8	98.3	70.0	30.1	13.2	49.3	73.1	115.9	72.9	61.4	300.6	167.1				
315.0	229.7	67.8	131.8	131.8	99.1	70.6	30.4	13.4	49.8	73.7	115.9	72.9	61.9	302.6	167.8				
325.0	231.0	68.3	132.9	132.9	99.9	71.2	30.6	13.5	45.2	74.3	115.9	73.4	62.4	304.6	168.6				
335.0	232.4	68.9	134.0	134.0	100.7	71.7	30.9	13.7	45.6	75.0	117.9	74.3	62.9	306.6	169.5				
345.0	233.8	69.4	135.0	135.0	101.5	72.3	31.2	13.9	46.0	75.6	117.9	74.9	63.5	308.6	170.3				
355.0	235.4	70.0	136.0	136.0	102.4	72.8	31.5	14.1	46.5	76.2	119.8	75.6	64.1	311.0	171.3				
365.0	237.0	70.6	137.2	137.2	103.2	73.6	31.8	14.4	46.9	76.9	120.9	76.4	64.7	313.4	172.4				
375.0	238.9	71.3	138.3	138.3	104.2	74.3	32.2	14.6	47.5	77.7	122.0	77.2	65.3	316.0	173.6				
385.0	240.9	72.0	139.4	139.4	105.2	75.1	32.6	14.9	48.0	78.5	123.2	78.0	66.0	318.9	174.9				
395.0	243.3	72.8	140.9	140.9	106.2	75.9	33.1	15.1	48.6	79.3	124.5	78.9	66.8	322.1	176.5				
405.0	245.9	73.6	142.4	142.4	107.2	76.8	33.6	15.4	49.3	80.3	125.8	79.8	67.6	325.7	178.3				
415.0	248.9	74.6	144.0	144.0	108.7	77.9	34.1	15.7	49.8	81.3	127.4	80.8	68.5	329.7	180.4				
425.0	252.4	75.7	145.6	145.6	110.2	79.0	34.6	16.0	50.9	82.5	129.0	81.9	69.4	334.2	182.9				
435.0	256.4	76.9	147.7	147.7	111.8	80.3	35.0	16.3	51.9	83.8	130.9	83.0	70.4	339.4	186.0				
445.0	261.1	78.3	149.9	149.9	113.6	81.4	35.5	16.6	53.0	85.3	132.9	84.3	71.5	345.4	189.6				
455.0	266.6	79.8	152.3	152.3	115.6	83.4	36.5	17.0	54.3	87.0	135.2	85.7	72.6	352.3	193.9				
465.0	273.1	81.4	155.0	155.0	117.9	85.2	37.5	17.5	55.7	88.9	137.8	87.3	73.9	360.3	199.1				
475.0	280.7	83.6	157.9	157.9	120.4	87.3	40.3	18.0	57.3	91.0	140.6	88.9	75.3	369.6	205.4				
485.0	289.9	85.9	161.1	161.1	123.2	89.6	41.6	18.5	59.2	93.3	143.6	90.6	76.9	380.5	213.0				
495.0	300.7	88.3	164.6	164.6	126.2	92.2	43.5	19.0	61.3	95.9	146.9	92.4	78.5	393.1	223.2				
505.0	313.4	91.0	168.3	168.3	129.5	95.0	45.5	19.5	63.6	98.7	150.4	94.3	80.2	407.8	233.3				
515.0	328.8	93.9	172.0	172.0	132.9	98.0	47.8	20.0	66.1	101.7	154.0	96.1	82.0	424.9	246.8				
525.0	346.7	96.9	176.0	176.0	136.8	101.1	50.3	20.5	68.7	104.7	157.6	97.8	83.7	444.5	263.0				
535.0	367.6	99.6	179.7	179.7	140.2	104.2	52.8	21.7	71.3	107.7	161.1	99.2	85.4	466.8	282.2				
545.0	391.6	102.9	183.4	183.4	143.2	107.2	55.4	23.9	73.8	110.6	164.4	100.9	86.8	492.0	304.8				
555.0	418.8	105.6	186.7	186.7	146.8	110.1	57.9	26.0	76.2	113.3	167.5	103.5	88.0	520.3	330.8				
565.0	449.2	108.1	189.8	189.8	149.3	112.6	60.1	27.9	78.3	115.7	170.2	102.2	89.1	551.5	360.1				

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H-6

ALPHA PQS

ORIGINAL PAGE IS
OF POOR QUALITY

COMPOSITE														ALPHA POS	
TIME	NOM VAL	1	2	3	4	5	6	7	8	9					
205.0	-11.4	-1	-6	-3	-1	.5	.7	.2	-1	-6	2.0	2.1	-9.4	-13.5	*
295.0	-11.5	-1	-5	-2	.0	.5	.7	.3	-1	-5	1.9	2.0	-9.6	-13.5	*
305.0	-11.5	-2	-4	-1	.1	.6	.8	.4	.1	-4	1.8	1.9	-9.7	-13.5	*
315.0	-11.5	-3	-3	-1	.2	.6	.8	.4	.1	-3	1.8	1.9	-9.7	-13.4	*
325.0	-11.3	-3	-2	.0	.2	.6	.8	.4	.2	-2	1.7	1.8	-9.6	-13.2	*
335.0	-11.1	-4	-1	.1	.3	.7	.8	.5	.2	-1	1.7	1.8	-9.5	-12.9	*
345.0	-10.9	-4	.0	.2	.4	.7	.8	.5	.3	.0	1.6	1.7	-9.3	-12.6	*
355.0	-10.6	-5	.1	.3	.4	.7	.8	.6	.4	.1	1.5	1.6	-9.0	-12.2	*
365.0	-10.2	-6	.2	.4	.5	.8	.9	.6	.5	.2	1.5	1.6	-8.7	-11.8	*
375.0	-9.7	-6	.3	.4	.6	.8	.9	.7	.5	.3	1.4	1.5	-8.3	-11.2	*
385.0	-9.2	-7	.4	.5	.6	.8	.9	.7	.6	.4	1.4	1.4	-7.9	-10.7	*
395.0	-8.7	-7	.5	.6	.7	.9	.9	.8	.7	.5	1.3	1.4	-7.4	-10.1	*
405.0	-8.1	-8	.6	.7	.8	.9	.9	.8	.7	.6	1.3	1.3	-6.9	-9.5	*
415.0	-7.5	-9	.7	.8	.9	.9	.9	.9	.8	.7	1.2	1.2	-6.3	-8.8	*
425.0	-6.9	-9	.8	.9	.9	.9	1.0	.9	.9	.8	1.2	1.2	-5.7	-8.1	*
435.0	-6.1	-10	.9	.9	.9	.9	1.0	.9	.9	.9	1.1	1.2	-4.9	-7.3	*
445.0	-5.3	-10	.9	.9	.9	.9	1.0	1.0	1.0	1.0	1.1	1.2	-4.2	-6.5	*
455.0	-4.5	-10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.2	-3.4	-5.7	*
465.0	-3.7	-11	1.1	1.1	1.1	1.0	1.0	1.0	1.1	1.2	1.1	1.1	-2.6	-4.8	*
475.0	-2.9	-12	1.2	1.2	1.1	1.0	1.0	1.1	1.2	1.3	1.1	1.2	-1.8	-4.0	*
485.0	-2.0	-13	1.3	1.3	1.2	1.0	.9	1.1	1.2	1.3	1.1	1.2	-.9	-3.1	*
495.0	-1.1	-14	1.4	1.3	1.2	1.0	.9	1.1	1.3	1.4	1.1	1.2	.0	-2.3	*
505.0	-.2	-15	1.5	1.4	1.3	1.0	.9	1.1	1.3	1.4	1.2	1.2	1.0	-1.5	*
515.0	.6	-16	1.6	1.5	1.3	1.0	1.0	1.2	1.4	1.5	1.2	1.3	1.8	-.9	*
525.0	1.6	-17	1.7	1.6	1.2	.9	.8	1.1	1.3	1.6	1.3	1.4	2.9	1.6	*
535.0	2.4	-18	1.8	1.7	1.2	.8	.7	1.1	1.3	1.6	1.4	1.5	3.8	4.7	*
545.0	3.2	-19	1.9	1.8	1.3	.9	.8	1.1	1.4	1.8	1.5	1.6	4.7	5.6	*
555.0	3.9	-20	1.8	1.5	1.3	.8	.7	1.1	1.4	1.8	1.7	1.7	5.6	6.3	*
565.0	4.5	-21	1.8	1.5	1.2	.7	.5	1.0	1.3	1.8	1.8	1.8	6.3	7.2	*

BETA POS

ORIGINAL PAGE IS
OF POOR QUALITY

COMPOSITE											BETA	POS
TIME	NOM	VAL	1	2	3	4	5	6	7	8	9	
100.0	.6		.1	.1	-1.5	-2.1	-2.2	.2	1.9	2.4	2.0	2.6
101.0	.6		.1	.1	-1.5	-2.2	-2.2	.1	1.9	2.4	2.0	2.6
102.0	.6		.1	.0	-1.5	-2.2	-2.2	.1	1.8	2.3	2.0	2.6
103.0	.6		.0	.0	-1.6	-2.2	-2.2	.1	1.8	2.3	2.0	2.6
104.0	.5		.0	.0	-1.5	-2.2	-2.2	.1	1.9	2.3	2.0	2.6
105.0	.5		.0	.0	-1.6	-2.2	-2.1	.2	1.8	2.2	2.0	2.5
106.0	.6		.0	.0	-1.6	-2.2	-2.1	.1	1.8	2.2	2.0	2.6
107.0	.6		.0	.0	-1.6	-2.2	-2.2	.1	1.8	2.2	2.0	2.6
108.0	.6		.0	.0	-1.6	-2.2	-2.2	.1	1.8	2.2	2.0	2.6
109.0	.6		.0	.0	-1.5	-2.1	-2.1	.1	1.8	2.2	1.9	2.4
110.0	.6		.0	.0	-1.5	-2.1	-2.0	.1	1.7	2.1	1.9	2.3
111.0	.5		.0	.0	-1.5	-1.9	-1.8	.1	1.6	2.0	1.9	2.1
112.0	.5		.1	.0	-1.2	-1.7	-1.7	.1	1.5	1.8	2.1	2.1
113.0	.5		.1	.0	-1.2	-1.6	-1.6	.1	1.5	1.7	2.0	2.3
114.0	.5		.1	.0	-1.1	-1.5	-1.5	.2	1.4	1.6	2.0	2.3
115.0	.5		.1	.0	-1.0	-1.4	-1.5	.2	1.5	1.6	2.0	3.5
116.0	.5		.2	.1	-.9	-1.3	-1.4	.2	1.5	1.7	2.0	4.9
117.0	.5		.3	.2	-.8	-1.3	-1.4	.3	1.6	1.8	2.1	5.2
118.0	.5		.4	.3	-.7	-1.3	-1.4	.3	1.8	2.0	2.4	5.2
119.0	.5		.4	.3	-.9	-1.4	-1.5	.3	1.8	2.1	2.4	4.9
120.0	.5		.4	.3	-1.0	-1.5	-1.6	.3	1.8	2.2	2.4	4.6
121.0	.6		.3	.3	-1.1	-1.6	-1.7	.3	1.8	2.2	2.4	4.4
122.0	.6		.3	.3	-1.1	-1.6	-1.8	.3	1.8	2.2	2.4	4.1
123.0	.6		.3	.3	-1.1	-1.7	-1.9	.3	1.9	2.2	2.4	3.6
124.0	.6		.3	.3	-1.0	-1.7	-1.9	.3	1.9	2.3	2.5	2.9
125.0	.6		.3	.3	-1.1	-1.7	-1.9	.3	1.9	2.3	2.5	2.2
126.0	.6		.3	.3	-1.1	-1.8	-2.0	.3	1.9	2.3	2.5	2.4
127.0	.7		.2	.2	-1.2	-1.9	-2.0	.3	1.9	2.3	2.5	2.7
128.0	.7		.2	.2	-1.3	-1.9	-2.0	.2	1.9	2.3	2.5	2.9
129.0	.7		.2	.1	-1.3	-2.0	-2.1	.2	1.9	2.2	2.4	2.9
130.0	.7		.2	.1	-1.3	-2.0	-2.1	.2	1.9	2.2	2.4	3.2
131.0	.7		.5	.8	-3.8	-3.2	-4.9	.3	3.0	3.9	2.5	3.2
132.0	.7		.5	.8	-3.7	-5.0	-4.9	.3	3.0	3.8	2.5	3.2
133.0	.1		.1	.2	-3.0	-4.3	-4.3	.3	3.6	4.5	3.0	5.2
134.0	.1		.1	.2	-3.0	-4.3	-4.3	.3	3.6	4.4	3.6	5.2
135.0	.1		.1	.1	-2.9	-4.3	-4.4	.3	3.6	4.4	3.6	5.2
145.0	.1		.2	.2	-3.0	-4.5	-4.4	.3	3.6	4.7	4.5	4.7
155.0	.2		.2	.2	-3.0	-4.1	-4.0	.3	3.3	4.1	4.5	4.9
165.0	.2		.2	.2	-2.6	-3.7	-3.6	.3	3.3	4.1	4.0	4.5
175.0	.2		.2	.2	-2.3	-3.4	-3.3	.3	3.0	3.7	3.5	3.8
185.0	.2		.2	.2	-2.1	-3.1	-3.0	.2	2.8	3.5	3.3	3.5
195.0	.2		.2	.2	-1.9	-2.9	-2.8	.2	2.6	3.2	3.0	3.2
205.0	.2		.2	.2	-1.8	-2.6	-2.6	.2	2.4	3.0	2.7	2.9
215.0	.2		.2	.2	-1.6	-2.4	-2.4	.2	2.2	2.7	2.5	2.5
225.0	.2		.2	.2	-1.5	-2.2	-2.2	.1	2.1	2.5	2.2	2.2
235.0	.2		.2	.2	-1.4	-2.0	-2.0	.1	1.9	2.3	2.2	1.9
245.0	.2		.1	.2	-1.3	-1.9	-1.8	.1	1.8	2.1	1.9	1.7
255.0	.1		.0	.0	-.5	-.7	-.6	.0	.6	.7	.4	-.5
265.0	.1		.0	.0	-.5	-.7	-.6	.0	.5	.7	.3	-.5
275.0	.1		.0	.0	-.5	-.6	-.5	.0	.5	.7	.3	-.5

ORIGINAL PAGE OF
OF POOR QUALITY

COMPOSITE

TIME	MON VAL	1	2	3	4	5	6	7	8	9	BETA	POS
205.0	-1.9	.0	.1	.5	.6	.5	.0	.5	.6	.5	.1	-2.0
205.0	-1.9	.0	.1	.5	.6	.5	.0	.5	.6	.5	.1	-2.0
305.0	-1.9	.0	.1	.5	.6	.5	.0	.5	.6	.5	.1	-2.0
315.0	-2.0	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.0
335.0	-2.0	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.1
345.0	-2.0	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.1
355.0	-2.1	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.1
365.0	-2.1	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.1
375.0	-2.1	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.1
385.0	-2.1	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.1
395.0	-2.1	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.1
405.0	-2.2	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.2
415.0	-2.2	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.2
425.0	-2.2	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.2
435.0	-2.2	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.2
445.0	-2.3	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.3
455.0	-2.3	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.3
465.0	-2.3	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.3
475.0	-2.4	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.4
485.0	-2.4	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.4
495.0	-2.4	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.4
505.0	-2.5	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.5
515.0	-2.6	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.5
525.0	-2.6	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.6
535.0	-2.7	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.7
545.0	-2.8	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.8
555.0	-2.9	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-2.9
565.0	-3.0	.0	.1	.4	.5	.5	.0	.4	.6	.5	.1	-3.0

(Reverse Blank)
H-13

APPENDIX I—MISSION 3A COMPOSITE AND WIND DISPERSED TRAJECTORIES

ORIGINAL PAGE IS
OF POOR QUALITY

COMPOSITE											AHI	POS
TIME	NOM VAL	1	2	3	4	5	6	7	8	9		
50.0	1.6	.2	.7	.6	.3	.0	-.1	.0	.3	.5	.5	.7
51.0	1.7	.3	.8	.6	.3	.0	-.1	.0	.3	.6	.6	.8
52.0	1.8	.3	.9	.7	.3	.0	-.1	.0	.3	.6	.6	.8
53.0	2.0	.3	1.0	.8	.3	.0	-.2	.0	.4	.7	.7	.9
54.0	2.1	.3	1.0	.8	.3	.0	-.2	.0	.4	.7	.7	.9
55.0	2.2	.3	1.1	.9	.4	.0	-.2	.0	.4	.8	.8	.9
56.0	2.3	.4	1.2	1.0	.4	.0	-.2	.0	.5	.9	.8	1.0
57.0	2.5	.4	1.3	1.1	.5	.1	-.2	.0	.5	.9	.9	1.0
58.0	2.6	.5	1.5	1.2	.5	.1	-.3	.0	.5	1.0	.9	1.1
59.0	2.8	.5	1.6	1.3	.6	.1	-.3	.0	.6	1.1	1.0	1.1
60.0	2.9	.5	1.7	1.4	.6	.1	-.3	.0	.6	1.1	1.1	1.1
61.0	3.1	.6	1.9	1.6	.7	.1	-.3	.0	.7	1.2	1.2	1.2
62.0	3.3	.7	2.1	1.7	.7	.1	-.3	.0	.7	1.3	1.3	1.2
63.0	3.5	.7	2.2	1.9	.8	.2	-.3	.1	.9	1.5	1.4	1.3
64.0	3.7	.8	2.4	2.0	.9	.2	-.3	.1	.9	1.7	1.5	1.3
65.0	4.0	.9	2.6	2.2	1.0	.3	-.3	.1	1.0	1.8	1.6	1.4
66.0	4.3	1.0	2.8	2.4	1.1	.4	-.3	.2	1.2	2.0	1.8	1.5
67.0	4.6	1.1	3.1	2.6	1.3	.4	-.3	.2	1.3	2.1	1.9	1.6
68.0	5.0	1.3	3.3	2.9	1.4	.5	-.3	.3	1.4	2.3	2.1	1.7
69.0	5.4	1.4	3.6	3.1	1.6	.6	-.2	.4	1.6	2.5	2.3	1.8
70.0	5.8	1.5	3.8	3.3	1.7	.7	-.2	.4	1.7	2.7	2.5	2.0
71.0	6.3	1.7	4.1	3.6	1.9	.8	-.1	.6	1.9	3.0	2.7	2.1
72.0	6.9	1.9	4.4	3.9	2.1	1.0	-.1	.6	2.1	3.2	3.0	2.3
73.0	7.5	2.1	4.8	4.2	2.3	1.1	.0	.8	2.3	3.5	3.2	2.5
74.0	8.1	2.3	5.1	4.5	2.5	1.3	.1	.9	2.5	3.7	3.5	2.7
75.0	8.8	2.5	5.5	4.9	2.7	1.4	.2	1.0	2.7	4.0	3.8	2.9
76.0	9.6	2.8	5.8	5.2	3.0	1.5	.3	1.2	3.0	4.4	4.1	3.2
77.0	10.5	3.1	6.2	5.5	3.3	1.7	.4	1.4	3.3	4.7	4.5	3.5
78.0	11.4	3.4	6.7	6.0	3.6	1.9	.6	1.6	3.6	5.1	4.9	3.8
79.0	12.4	3.7	7.1	6.5	3.9	2.1	.7	1.8	3.9	5.4	5.2	4.1
80.0	13.5	4.0	7.5	6.9	4.2	2.3	.8	2.0	4.2	5.8	5.6	4.4
81.0	14.7	4.4	8.0	7.4	4.5	2.6	1.0	2.2	4.5	6.3	6.0	4.8
82.0	16.0	4.7	8.5	7.9	4.9	2.9	1.2	2.4	5.0	6.7	6.4	5.1
83.0	17.4	5.1	9.1	8.4	5.2	3.1	1.4	2.7	5.4	7.2	6.8	5.5
84.0	18.8	5.5	9.6	8.9	5.6	3.4	1.6	2.9	5.8	7.7	7.2	5.9
85.0	20.3	5.9	10.2	9.5	6.0	3.7	1.7	3.2	6.2	8.2	7.7	6.3
86.0	21.9	6.3	10.9	10.1	6.5	4.0	1.9	3.5	6.7	8.8	8.1	6.7
87.0	23.6	6.7	11.5	10.7	6.9	4.3	2.1	3.8	7.2	9.4	8.6	7.1
88.0	25.4	7.2	12.2	11.4	7.4	4.6	2.2	4.0	7.7	10.0	9.0	7.5
89.0	27.3	7.7	12.9	12.1	7.9	5.0	2.4	4.3	8.1	10.6	9.5	7.9
90.0	29.3	8.2	13.7	12.9	8.4	5.5	2.5	4.6	8.7	11.2	10.0	8.4
91.0	31.3	8.7	14.4	13.6	8.9	6.0	2.6	4.9	9.2	11.9	10.3	8.9
92.0	33.5	9.2	15.2	14.4	9.4	6.3	2.7	5.1	9.7	12.6	10.7	9.3
93.0	35.7	9.8	16.1	15.2	9.9	6.7	2.9	5.4	10.3	13.3	11.4	9.8
94.0	38.0	10.3	16.9	16.0	10.5	7.0	3.1	5.6	10.9	14.1	11.9	10.3
95.0	40.5	10.9	17.8	16.7	11.1	7.4	3.3	5.9	11.5	14.8	12.3	10.7
96.0	43.0	11.5	18.8	17.8	11.7	7.8	3.4	6.2	12.1	15.6	12.8	11.2
97.0	45.8	12.1	19.7	18.4	12.3	8.2	3.5	6.4	12.7	16.5	13.3	11.7
98.0	48.3	12.7	20.8	19.4	12.9	8.6	3.5	6.7	13.4	17.4	13.7	12.2
99.0	51.0	13.3	21.8	20.4	13.6	9.0	3.5	6.9	14.0	18.2	14.2	12.7

I-4

POS

A441

POS

1-6

ORIGINAL PAGE IS
OF POOR QUALITY

1-8

[illegible]

COMPOSITE											BETA POS
TIME	NOM VAL	1	2	3	4	5	6	7	8	9	
0	0	0	0	0	0	0	0	0	0	0	0
1	1.0	1.5	82.5	45.1	6.8	-37.8	85.9	-17.5	21.0	66.0	1.0
2	2.0	1.5	46.4	26.3	-7.7	-31.8	-36.5	-17.7	6.8	38.0	1.3
3	3.0	1.5	10.9	16.9	-2.1	-25.8	-26.7	-12.7	4.5	26.9	1.0
4	4.0	1.5	22.9	11.9	-2.5	-27.7	-20.5	-9.4	3.9	21.0	1.1
5	5.0	1.5	19.1	9.7	-2.4	-16.8	-16.5	-7.3	3.3	17.0	1.1
6	6.0	1.5	15.1	7.4	-2.1	-14.0	-13.9	-6.1	2.8	14.1	1.2
7	7.0	1.5	11.1	6.4	-1.8	-12.0	-12.1	-5.3	2.4	12.1	1.2
8	8.0	1.5	11.7	5.7	-1.5	-10.4	-10.9	-4.7	2.1	10.5	1.3
9	9.0	1.5	10.5	4.8	-1.7	-9.6	-9.8	-4.0	2.2	9.7	1.2
10	10.0	1.5	9.3	3.2	-2.9	-9.4	-8.4	-2.3	3.5	9.7	1.3
11	11.0	1.5	7.5	1.2	-4.3	-9.0	-6.5	-2.2	5.0	9.6	1.5
12	12.0	1.5	5.4	-7.7	-5.1	-8.1	-4.3	1.7	5.9	8.8	1.8
13	13.0	1.5	3.3	-2.2	-5.4	-6.7	-2.1	3.2	6.3	7.6	1.9
14	14.0	1.5	1.3	-1.3	-5.3	-5.1	-0.0	4.4	6.3	6.2	1.9
15	15.0	1.5	-6.6	-4.1	-4.9	-3.5	1.8	5.3	6.0	4.8	1.8
16	16.0	1.5	-1.4	-4.3	-4.4	-2.6	2.7	5.5	5.1	3.9	1.6
17	17.0	1.5	-1.3	-4.2	-4.3	-2.6	2.9	5.3	5.5	3.8	1.5
18	18.0	1.5	-1.1	-4.0	-4.2	-2.7	7.8	4.9	5.1	3.7	1.4
19	19.0	1.5	-9.9	-3.8	-4.1	-2.4	9.4	4.6	4.9	3.6	1.3
20	20.0	1.5	-7.7	-3.7	-4.0	-2.7	6.8	4.4	4.7	3.5	1.2
21	21.0	1.5	-6.6	-3.6	-3.9	-2.6	1.0	4.2	4.6	3.4	1.0
22	22.0	1.5	-6.6	-3.5	-3.8	-2.6	-4.7	4.0	4.4	3.2	1.0
23	23.0	1.5	-6.6	-3.4	-3.7	-2.5	-5.8	3.9	4.3	3.1	.9
24	24.0	1.5	-5.5	-3.3	-3.6	-2.5	-7.7	3.7	4.2	3.0	.9
25	25.0	1.5	-5.5	-3.2	-3.6	-2.5	1.2	3.6	4.0	2.9	.8
26	26.0	1.5	-5.5	-3.2	-3.5	-2.4	.7	3.3	3.8	2.7	.8
27	27.0	1.5	-5.5	-3.1	-3.4	-2.3	.7	3.0	3.4	2.6	.8
28	28.0	1.5	-4.4	-2.9	-3.2	-2.2	.5	2.9	3.2	2.4	.8
29	29.0	1.5	-4.4	-2.7	-3.1	-2.1	.5	2.8	3.0	2.2	.8
30	30.0	1.5	-3.3	-2.6	-2.7	-1.9	.4	2.7	2.8	1.9	.9
31	31.0	1.5	-3.3	-2.5	-2.6	-1.8	.3	2.5	2.6	1.8	.9
32	32.0	1.5	-3.3	-2.4	-2.6	-1.6	.3	2.3	2.4	1.6	.9
33	33.0	1.5	-3.3	-2.3	-2.4	-1.5	.3	2.2	2.2	1.5	.9
34	34.0	1.5	-2.2	-1.4	-2.2	-1.5	.3	2.0	2.2	1.5	.9
35	35.0	1.5	-2.2	-1.5	-1.9	-1.3	.2	1.8	2.0	1.3	.9
36	36.0	1.5	-2.2	-1.4	-1.7	-1.2	.2	1.6	1.7	1.1	.9
37	37.0	1.5	-2.2	-1.3	-1.5	-1.1	.2	1.5	1.5	.9	.9
38	38.0	1.5	-2.2	-1.2	-1.2	-9.9	.2	1.4	1.3	.8	.8
39	39.0	1.5	-2.2	-1.1	-1.0	-9.9	.2	1.3	1.3	.8	.8
40	40.0	1.5	-2.2	-1.0	-1.0	-9.9	.2	1.2	1.2	.8	.8
41	41.0	1.5	-2.2	-1.0	-1.0	-9.9	.2	1.1	1.1	.8	.8
42	42.0	1.5	-2.2	-1.0	-1.0	-9.9	.2	1.0	1.0	.8	.8
43	43.0	1.5	-2.2	-1.0	-1.0	-9.9	.2	1.0	1.0	.8	.8
44	44.0	1.5	-2.2	-1.0	-1.0	-9.9	.2	1.0	1.0	.8	.8
45	45.0	1.5	-2.2	-1.0	-1.0	-9.9	.2	1.0	1.0	.8	.8
46	46.0	1.5	-2.2	-1.0	-1.0	-9.9	.2	1.0	1.0	.8	.8
47	47.0	1.5	-2.2	-1.0	-1.0	-9.9	.2	1.0	1.0	.8	.8
48	48.0	1.5	-2.2	-1.0	-1.0	-9.9	.2	1.0	1.0	.8	.8
49	49.0	1.5	-2.2	-1.0	-1.0	-9.9	.2	1.0	1.0	.8	.8

ORIGINAL PAGE IS
OF POOR QUALITY

COMPOSITE

TIME	MOM	VAL	1	2	3	4	5	6	7	8	9	BETA	POS
50.0	4		-1	-2	-1.6	-1.2	0	1.7	1.5	1.4	1.0	1.4	-1.0
51.0	4		-1	-1	-1.6	-1.2	0	1.8	1.6	1.4	1.1	1.4	-1.1
52.0	3		-1	-1	-1.6	-1.2	0	1.9	1.7	1.4	1.1	1.4	-1.2
53.0	3		-1	-1	-1.5	-1.2	0	1.9	1.7	1.5	1.1	1.4	-1.3
54.0	3		-1	-1	-1.5	-1.2	0	1.9	1.7	1.5	1.1	1.4	-1.3
55.0	3		-1	-1	-1.5	-1.2	0	2.0	1.7	1.5	1.1	1.4	-1.3
56.0	3		-1	-1	-1.6	-1.2	0	2.0	1.7	1.5	1.1	1.4	-1.3
57.0	3		-1	-1	-1.5	-1.2	0	1.9	1.7	1.5	1.1	1.4	-1.3
58.0	3		-1	-1	-1.6	-1.2	0	1.9	1.7	1.5	1.1	1.4	-1.3
59.0	3		-1	-1	-1.6	-1.2	0	1.9	1.6	1.5	1.1	1.4	-1.4
60.0	3		-1	-1	-1.4	-1.1	0	1.9	1.6	1.5	1.1	1.4	-1.4
61.0	3		-1	-1	-1.3	-1.1	0	1.9	1.6	1.5	1.1	1.4	-1.4
62.0	3		-1	-1	-1.3	-1.1	0	1.9	1.5	1.5	1.1	1.4	-1.4
63.0	3		-1	-1	-1.3	-1.1	0	1.8	1.6	1.5	1.1	1.4	-1.4
64.0	3		-1	-1	-1.4	-1.1	0	1.8	1.6	1.5	1.1	1.4	-1.4
65.0	3		-1	-1	-1.4	-1.1	0	1.8	1.6	1.5	1.1	1.4	-1.4
66.0	3		-1	-1	-1.4	-1.1	0	1.8	1.6	1.5	1.1	1.4	-1.4
67.0	4		-1	-1	-1.5	-1.1	0	1.8	1.6	1.5	1.1	1.4	-1.4
68.0	4		-1	-1	-1.5	-1.1	0	1.9	1.7	1.5	1.1	1.4	-1.4
69.0	4		-1	-1	-1.5	-1.1	0	1.9	1.7	1.5	1.1	1.4	-1.4
70.0	4		-1	-1	-1.6	-1.1	0	1.9	1.7	1.5	1.1	1.4	-1.4
71.0	4		-1	-1	-1.6	-1.1	0	2.0	1.7	1.5	1.1	1.4	-1.4
72.0	4		-1	-1	-1.6	-1.1	0	2.0	1.8	1.5	1.1	1.4	-1.4
73.0	4		-1	-1	-1.7	-1.1	0	2.0	1.9	1.5	1.1	1.4	-1.4
74.0	4		-1	-1	-1.7	-1.1	0	2.1	1.9	1.5	1.1	1.4	-1.4
75.0	4		-1	-1	-1.9	-1.1	0	2.2	2.0	1.5	1.1	1.4	-1.4
76.0	4		-1	-1	-2.1	-1.1	0	2.2	2.1	1.5	1.1	1.4	-1.4
77.0	4		-1	-1	-2.0	-1.1	0	2.4	2.2	1.5	1.1	1.4	-1.4
78.0	4		-1	-1	-2.3	-1.1	0	2.4	2.2	1.5	1.1	1.4	-1.4
79.0	4		-1	-1	-2.3	-1.1	0	2.6	2.4	1.5	1.1	1.4	-1.4
80.0	4		-1	-1	-2.6	-1.1	0	2.6	2.5	1.5	1.1	1.4	-1.4
81.0	4		-1	-1	-2.4	-1.1	0	2.9	2.8	1.5	1.1	1.4	-1.4
82.0	4		-1	-1	-2.8	-1.1	0	3.0	3.0	1.5	1.1	1.4	-1.4
83.0	4		-1	-1	-2.8	-1.1	0	3.2	3.2	1.5	1.1	1.4	-1.4
84.0	4		-1	-1	-3.2	-1.1	0	3.3	3.3	1.5	1.1	1.4	-1.4
85.0	4		-1	-1	-3.2	-1.1	0	3.5	3.5	1.5	1.1	1.4	-1.4
86.0	4		-1	-1	-3.2	-1.1	0	3.7	3.8	1.5	1.1	1.4	-1.4
87.0	4		-1	-1	-3.4	-1.1	0	3.7	3.9	1.5	1.1	1.4	-1.4
88.0	4		-1	-1	-3.4	-1.1	0	3.5	3.7	1.5	1.1	1.4	-1.4
89.0	4		-1	-1	-3.5	-1.1	0	3.4	3.6	1.5	1.1	1.4	-1.4
90.0	4		-1	-1	-3.4	-1.1	0	3.4	3.6	1.5	1.1	1.4	-1.4
91.0	4		-1	-1	-3.3	-1.1	0	3.4	3.6	1.5	1.1	1.4	-1.4
92.0	4		-1	-1	-3.3	-1.1	0	3.4	3.6	1.5	1.1	1.4	-1.4
93.0	4		-1	-1	-3.3	-1.1	0	3.5	3.7	1.5	1.1	1.4	-1.4
94.0	4		-1	-1	-3.0	-1.1	0	3.5	3.7	1.5	1.1	1.4	-1.4
95.0	4		-1	-1	-2.9	-1.1	0	3.4	3.6	1.5	1.1	1.4	-1.4
96.0	4		-1	-1	-2.8	-1.1	0	3.6	4.0	1.5	1.1	1.4	-1.4
97.0	4		-1	-1	-2.8	-1.1	0	3.7	4.0	1.5	1.1	1.4	-1.4
98.0	4		-1	-1	-2.9	-1.1	0	3.6	3.8	1.5	1.1	1.4	-1.4
99.0	4		-1	-1	-3.1	-1.1	0	3.5	3.6	1.5	1.1	1.4	-1.4
100.0	4		-1	-1	-3.1	-1.1	0	3.5	3.6	1.5	1.1	1.4	-1.4

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BETA POS

COMPOSITE

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